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GEORGE H. SIMMONS, M.D.

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Addresses

THE FIELD FOR PROPHYLAXIS AMONG CHILDREN

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON DISEASES OF CHILDREN AT THE SIXTIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1909

THOMAS S. SOUTHWORTH, M.D.
NEW YORK

The passing of the old-time family physician and the threatened usurpation of his position by the specialist, of which frequent plaint was wont to be made some years ago, no longer occupies even the occasional attention of the lay press. Happily throughout the larger part of our country the old relation of the physician to the family is still maintained, though less stress is laid than formerly on the value of a personal knowledge of the temperament and maladies of a child's forbears, since modern thoroughness in history-taking furnishes the essential data.

To-day the well-equipped practitioner of medicine is in truth a many-sided specialist. The temporary eclipse which he may have suffered through the growth of the specialties has left him more than debtor to those who blazed the way through untried paths so clearly that a competent knowledge of the specialties has become the common property of all well-informed physicians.

With this broader outlook, new criteria of diagnosis and new measures of treatment, the responsibility of the physician for the welfare of his patient has proportionately increased, but in few directions has this responsibility advanced so rapidly as in that of the proper management of the child from infancy to puberty. During this period of phenomenal development, the foundations are laid of those factors which make most for success in after-life—a well-developed body, sound health, and a good digestion. In so far as these fall short of the normal, just so far does the individual miss his full effectiveness in the world's work.

We already know that the loss in this country from a single malady, tuberculosis, has been conservatively estimated at millions of dollars, but the monetary loss caused by the sum-total of physical underdevelopment and avoidable illness would, if measurable, startle the imagination.

The mere consideration of this matter would seem to smack too much of idle speculation were it not for the indisputable fact that we are already in the possession of prophylactic measures of every-day medicine which, if conscientiously applied to each member of the community, would produce incalculable results.

Few will deny that the recent victory of Japan was chiefly due to the maintenance of efficiency in her smaller standing army through the application of the principles of sanitation, which prevented its decimation by disease. What education, better food and better environment have already accomplished in enhancing the effectiveness of the American wage-earners, recruited, as they are, by inundating waves of foreign immigration, is already recognized and can and will be repeated in other directions. So long as it is considered good business policy to study and apply devices which make labor more effective, there is nothing vague or visionary in considering the possibility of applying to the future laborer health-saving devices which will make him physically and mentally fitter for his work.

Since the foundations of a sound physique are laid in infancy and childhood, and if neglected can not be rebuilt, the practical consideration of this question is peculiarly appropriate before this body of children's physicians. In infant mortality, with its enormous loss of potential life and force, we have at the start a concrete problem worthy of our most earnest consideration. We are accustomed in our pride to consider that through cumulative effort not only has the condition of the average infant been improved, but that a material reduction has been accomplished during recent decades in the percentage of infants who die during the first year of life. The researches of Newman in England and of Stowell in this country have recently indicated that, except in certain favored localities, this reduction is not so apparent as we had supposed.

This need not surprise us so greatly if we consider that the overcrowding of our cities, the swamping of our slums with ignorant and inferior classes of immigrants, and an increase in the cost of living out of proportion to the increase of wage, have tended in these centers to enhance rather than lessen those hereditary and congenital weaknesses which lie so largely at the bottom of the conditions which cause deaths in early infancy. When to this is added the steady decrease in maternal nursing, so that larger numbers of infants are exposed to the dangers of artificial feeding, we may readily understand why these factors have not been more markedly offset by the genuine achievements in pediatrics, and more especially by the dissemination of better methods of feeding infants.

The improvement of the antenatal conditions which we have mentioned lies rather in the domain of sociologic endeavor than in that of medicine, but the postnatal factors in early mortality, and especially the unwarranted decline of maternal nursing, offers a field where our influence may be strongly exerted. The medical profession has been partially aroused of late to the fact that women should be urged to nurse their infants, but if the matter is allowed to rest there the work is but half done, for it is further imperative that every assistance should be extended to these women to make the continuation of lactation possible.

A careful study of this problem, which has now extended over some years, has daily convinced me that but a comparatively small number of mothers decline to do their duty, while by far the majority of those who have been unable to nurse, or have prematurely weaned their infants, have been led to make this decision through the ignorance or neglect of their trusted advisers. By this I mean neglect to investigate the actual conditions present, and to correct errors in management, as well as ignorance of the simplest measures which favor a normal secretion from the breast.

In support of this statement, and as bearing on this subject, I may quote from the recently published report of the Special Committee on the Prevention of Blindness in the State of New York, which is significant in this connection as indicating the part played by midwives in controlling the early management of mother and infant in our large cities. The report says:

> In Chicago, in 1904, we find 86 per cent. of all births . . . reported by midwives. In Buffalo, N. Y., . . . nearly one-half the births in one year were attended by midwives. In New York City, in 1905, 43,834, or 42 per cent. of the whole number were attended by midwives. For the year 1907, in New York City, there were 68,186 births reported by physicians, and 52,536 reported by midwives. In September, 1908, the registered midwives in the five boroughs of New York City numbered 1,382.

Of the midwives themselves, the report states:

> Although they are largely employed, especially by foreigners, no adequate provision, with rare exceptions, is made for the examination of midwives before licenses are granted and registration allowed by the departments of health or authorized boards of examiners.

And again:

> Out of 500 midwives visited, less than 10 per cent. (50) could be qualified as capable, reliable midwives.

Yet these women determine the feeding of the infants, and are responsible for much unnecessary weaning.

We can not, however, shift the blame entirely to the shoulders of the midwives. Clinical records show that removal from the breast is countenanced or advised by medical men without adequate investigation or effort to continue the nursing. Dr. Allen's resolution, offered and adopted at the Chicago meeting of this Section, presents this matter with admirable conciseness to the medical profession:

> Resolved, That we strongly urge that at least as much thought and effort be expended to render the mother's milk suitable for the child, as is now expended on the subject of artificial food.

We recognize that not only is the development of the nursing child far more likely to be normal than that of the bottle-fed infant, but that its expectation of life and immunity from disease is greatly enhanced. In so far, then, as we can stay this wave of early weaning, we are doing genuinely constructive life-saving work, but our duty to the infant is not completed when we have simply assured its being breast-fed.

In a certain sense no child is so neglected as the child at the breast. Under the assumption that breast-feeding, if fairly competent, is capable of automatically producing the best results for the infant, the breast-fed baby too often passes from observation and is but rarely placed under continued medical supervision. Few parents realize that an infant who is doing fairly well, and only fairly well on the breast, is not attaining the fullest development of which it is capable. It is, therefore, not unusual for parents and even physicians to be content with an average weekly gain of four ounces during an early period, when the gain should be eight ounces or more, and solace themselves with the belief that the infant who is a pound or two under its normal weight is naturally only a small baby.

Such an infant, if the quantity of its mother's breast milk can not be improved, should, except perhaps in the hottest months, receive supplementary feedings. Supplementary feedings, for the breast-fed infant whose weight is standing still, conserve the breast-milk and turn the balance into satisfactory gains. In similar manner, and with greater certainty, for the infant who is gaining but slowly, a normal gain may be readily inaugurated, and who may say whether the difference between a normal and subnormal development may not be a saving factor at some future crisis? The question is not whether an infant is doing fairly well, but whether it is reasonably receiving all that it is capable of assimilating and transforming into normal growth.

Turning our attention now to the exclusively bottle-fed infant, we find ourselves much better equipped by the clinical investigations and newer methods of the past few years to cope with the difficult case.

The recognition, when they occur, of symptoms produced by imperfect digestion of the fats of cow's milk, and the handling of cases presenting these symptoms with lower fat percentages and malt soup preparations, add greatly to the possibilities of success. While both of these methods seem to allow the use of a somewhat larger amount of milk casein in the infant's food, there is just now to be noted an unfortunate tendency to forget in the employment of a very limited number of formulas what the intelligent use of the percentage system has taught us. Present experience seems to indicate, and doubtless the consensus of professional opinion will eventually declare, that the uniformly best results are to be obtained by incorporating such newer principles in the percentage system, thus maintaining a due regard for the individuality of each infant with reference to his assimilative powers.

Philanthropists who are interested in the distribution of ready prepared modified milk to the poor of our large cities should seriously consider whether they are achieving the greatest good in the best possible manner. Not only are the formulas distributed so few in number and so inelastic as to be unsuited to a certain proportion of the infants, but the system contributes very little to the education of the lower classes in proper methods of infant-feeding. While a commendable stop-gap for infant mortality, these doles of already prepared milk approach dangerously near the futile *panem et circenses* of the Roman Empire, which only served to hasten its dissolution.

Far more productive in its results, and of ultimately greater hopefulness for the offspring of the poor, is the work which is progressing in certain of our outdoor dispensaries for children; for these teach the mothers the right principles of infant-feeding, and through instruction in home preparation and care of the food are slowly but surely overcoming ignorance and tradition, and spreading a leaven which, passed along from neighbor to neighbor, can not fail to produce important results in more intelligent feeding of infants among the masses.

The supervision of the growth and development of the bottle-fed infant during the first two years of life leaves much to be desired. Here, even more than in the case of the infant at the breast, lies a field for wise effort, for in cow's milk feeding there is no physiologic adjustment of supply to demand. Every pound of normal growth is a valuable asset to the infant. Every period, long or short, during which the otherwise normal infant ceases to progress because of a failure to adjust his food to correspond to his power of assimilation, may have a definite influence on his future welfare.

This supervision can not safely be left to the mother or to the nurse. Especially is this true from the seventh to the twentieth month, when the development of the infant often lags from lack of intelligent direction. It is happily beginning to dawn on the more intelligent lay mind that money is better expended in securing periodical inspection and regulation of the infant's condition and diet than by waiting until disturbing symptoms present themselves before seeking the physician, and the results of the two methods when measured in health, body-weight and power of resistance are not to be compared.

Much as a properly adjusted diet is to be insisted on, diet is by no means the only factor which requires medical oversight. Next to a normal proportion of muscular tissue, the hemoglobin may be conservatively called the most important index of the child's resistance. Unless pallor be marked, it is rarely noted by parents. Fresh air, in abundance and at all hours, is one of the most effective hematinics. A drastic rearrangement of the infant's hygiene may be even more necessary than iron in producing improvement.

But fresh air may be of little avail unless the condition of the respiratory passages allows its free and unobstructed entrance to the lungs. Possibly in no single direction has as much been accomplished for the normal development of the child as by the attention given in recent years to obstructive conditions of the pharynx and nasopharynx caused by hypertrophied tonsils and adenoid tissue. That there is still much to be done, the thoughtful inspection of any group of children or of any school in session will make apparent. Thus far attention is rarely paid to these conditions until they have reached a marked stage. Is it wisdom to wait so long until the damage has been done—to wait for narrowing of the chest, non-expansion of the nasal passages, recurrent bronchitis from catarrhal extension, acute and chronic otitis, and permanent facial malformation, to take place before insisting on operative relief? Valid contraindications are but rarely present to an early operation of adenoidectomy, even before the expiration of the first year, if symptoms of mouth-breathing are present. With re-establishment of free nasal respiration, normal development is resumed, tonsillar hypertrophy is less apt to occur, and its minor degrees tend to remain stationary or to recede.

Through the effective medium of school inspection attention has been called to the deplorable neglect of children's teeth. The baleful influence of dental caries on the child's health is not fully appreciated. Not only do these imperfections militate against a proper mastication of the food, and the putrefying contents of the cavities furnish a favorable nidus for noxious organisms, but, as is now being pointed out by able dental surgeons, the premature loss of the first teeth has a serious effect on the normal development of the jaw and leads to irregularity in the eruption, position and apposition of the permanent teeth, with consequent malformations which handicap the child physically and socially. A normal facies, as well as sound health, is an important asset to the individual who must depend on his own resources to make his way in the world.

Among the organs of special sense, the eye, owing to many evident factors which lead to a prompter detection of any considerable deviation from the normal, has received vastly more attention than the ear. Only in the past few years has this latter organ begun to receive prophylactic consideration during the many infectious diseases of childhood which threaten the integrity of its function. To-day the conscientious physician who would do his full duty must carry with him in his pocket forehead-mirror and specula as religiously as he formerly carried stethoscope and hypodermatic syringe. A working knowledge of the protean appearances of the drum membrane in disease and the indications for immediate paracentesis require some measure of experience, but this is imperative and may be acquired by practice. Only those who have systematically examined the ears of a large number of sick children can realize how frequent is aural involvement, and how important and effective is early paracentesis in limiting inflammation, avoiding chronic suppuration, and preventing the more serious accidents from mastoid involvement. More cases of otherwise inexplicable temperature can be traced to the ear than to any other complication, and these cases can be relieved by paracentesis. There is a growing conviction that prompt paracentesis, by relieving congestion, limits the process and is the more conservative procedure as soon as there are reasonable indications of an effusion into the middle ear.

Instances could be multiplied almost indefinitely in which trained observation and prompt interference by the physician may stand between the child and lasting consequences. There is less glory to be attained by patient prophylaxis and early resort to conservative measures than by later successful intervention when the threatened damage is generally apparent; but the meed of honest satisfaction is the greater for the knowledge that dangers have been forestalled and the normal progress of the child secured. Prophylaxis is and ever should be the highest ideal of our profession, and its silent and unheralded victories are worthy to be ranked even higher than the more evident conquests of therapeutics and surgery. Even more on the physician than on the parent lies the responsibility of safeguarding the child. The army of laboratory workers is constantly putting new weapons into our hands. These focus our efforts when disease threatens, and aid in the reduction of mortality, but in our enthusiasm for new modes of diagnosis and treatment, however important, let us bear in mind that the most effective power for human good lies in prevention, and that to conserve a healthy body is a greater achievement than to cure a malady which has resulted, however remotely, from conditions which our timely effort might have averted.

807 Madison avenue.

The Function of the Ventral Group of Nuclei in the Thalamus Opticus of Man.—Winkler, C., and London, D. M., (Proc. Roy. Acad. Sc., Mathematical Physical Class, Amsterdam, 1908) assert that the ventral part of the optic thalamus is concerned in the main with peripheral sensation. There is reported a case in a woman of 77, who had complete loss of sensibility in the right extremities. There were no choreal symptoms and no intensive ataxia of the right side. The sensibility of the head region was scarcely affected; that of the thorax somewhat diminished. There was found in the left thalamus a small cavity with a well localized destruction of circumscribed ventral thalamic nuclei.

OLD AND NEW *

WILLIAM OSLER, M.D.
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OXFORD, ENGLAND

In the collegiate churches and cathedrals of England, before the sermon the preacher, in what is known as the "bidding prayer," asks the people, often in very quaint phraseology, to pray, among other things, for the estates of the realm, and then he offers a special prayer of thanks for the liberality of founders and benefactors, "men in their generation famous and in ours never to be forgotten." At Oxford in the university church every Sunday in term, it is interesting to hear recalled the memory of Duke Humphrey, Lady Margaret and other worthies. And whoever the preacher may be he finally mentions the founders and famous men of his particular college.

Following this happy custom, I would ask you in the first place to be profoundly thankful to the men of 1799 who gave this faculty to the country and who made this day possible. Out of the speechless years let us recall their good deeds, and I would ask that this occasion be blessed by invoking their memory. Part at least of the success of this faculty may be attributed to the pious care with which their example has been cherished. Long before I knew this city, Dr. Quinan's "History of the Medical Profession of the State of Maryland" was familiar to me; and we have to thank our indefatigable colleague, Dr. Cordell, in whose annals (by far the most complete history of the profession of any state in the union) we can read of the planting of the acorn, of the day of small things in which we had our origin. As Emerson says, "We can not overstate our debt to the past." The plans, the money, the anxious thought, the long hours spent in meetings, the labors of the various committees, represent but the completion of a great work, the foundations of which were laid in other generations. All the same let us be profoundly grateful to the building, finance and arrangement committees, and to our presidents of the past five years—Dr. Brush, Dr. Earle, Dr. Woods, Dr. C. O'Donovan and Dr. Goldsborough—for their extraordinary efforts. I hope that somewhere in this building a brass tablet will permanently record their names.

It would take a long bidding prayer to express the thanks of an academic wanderer like myself, who has had so much given to him in so many places. In deeds rather than in words I have tried to be thankful, but it is hard to find gratitude enough to go round. My heart resembles one of those old manuscripts, the parchment of which has been used over and over again; and, while it looks as if there was only one writing, the expert is able to decipher beneath the palimpsest, as it is called. It is hard on the parchment and it is not always easy to decipher the writing, but the characters traced by my associations in this city must ever remain fresh and clear.

A unique opportunity, indeed, was the founding of the Johns Hopkins Hospital. That those of us entrusted with its organization should have won your esteem and should have been adopted by the city and by the state is by far the best testimonial of our character and of our work. Considering the circumstances, it might easily have been otherwise. But the success of that experiment must not be attributed altogether to the professional side. Such men as Francis T. King, Judge Dobbin, Dr. Carey Thomas and Francis White were equal to the occasion, and we owe much to their wisdom and good management. But to one man more than all others I would like to express my personal thanks—Daniel C. Gilman, whose name will be forever associated with fundamental reforms in American educational methods. And at the Johns Hopkins Hospital we shall always cherish his memory for the work done in connection with its organization, and for his unfailing interest in the work of the medical school. When I heard of his happy death, the words of Elisha rose to my lips: "My father, my father! the chariot of Israel and the horsemen thereof." It is one of my deep regrets to miss on this occasion the greetings of a man whose encouragement and support meant so much in my life here.

I would recall with gratitude the kind reception given to me and to my colleagues by the older men of this faculty, through whose genial influence it was that we were soon made its devoted children. This might, indeed, have been no easy matter had not the way been prepared by a man whose Galenic touch has ever been an "open sesame." Better men than Frank Donaldson, Christopher Johnson, Allan Smith, George Miltenberger, Henry P. C. Wilson, John Van Bibber, John Morris, Aaron Friedenwald, Francis T. Miles and A. B. Arnold never served the state. And there were those of the younger generation with whom the work of the faculty brought me into close contact. Brune, cut off so prematurely, Michel, devoted to its interests, Rohé, so versatile and energetic, Chatard, whose family in this city forms a sort of hereditary Æsculapian guild, Atkinson, type of the ideal physician, George Preston, always faithful and hopeful, and the lovable Ridge Trimble—how glad would they have been to see this day!

The living well know how deeply I appreciate your friendship, of which you have given this new and enduring testimony. It does not often happen that a man is called on to participate in the dedication of a hall to himself. More often it is a posthumous honor for which the thanks are tendered by relatives or friends. It is difficult for me to express the deep gratitude I feel for this singular mark of affection on your part. The distinction is not a little enhanced by the association with corresponding halls in other cities of the names of some of the most distinguished of American physicians—Oliver Wendell Holmes in Boston, David Hosack in New York, and S. Weir Mitchell in Philadelphia.

If by any process from the large lump of your gracious kindness the grains of merit on my part could be extracted they would be found to consist of that all-precious material, faith—the pure gold of faith—which I always had in the future of the faculty. Just twenty years ago I joined this society and began my professional life here by giving the annual oration. Its history and tradition appealed to me strongly and I soon began to find my way to the old quarters under the Historical Society's hall. Dismal, dark and dusty, yet the rooms contained much of interest and there were always a few choice spirits to be found, most often our learned historian, then the librarian, George Preston, Bond, Brune and others. We liked the old place with all its dust and dirt, and it represented much solid effort by better men than ourselves. For years there had been a strongly expressed wish to move to larger quarters, and

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* Annual oration on the occasion of the opening of the new building of the Medical and Chirurgical Faculty of Maryland, May 13, 1909.

with many misgivings and by a not very large majority it was decided in 1895 to buy the house at 847 North Eutaw Street. Our optimistic treasurer, Dr. Ashby, really made us move. Knowing frenzied finance thoroughly and running the faculty on credit, yet he inspired faith in his colleagues who were financial babies in his hands. No one knows how he succeeded in paying for No. 847 and for the hall we there built. We were always hard up, always spending more than our income, and Dr. Ashby had to meet our ever-increasing extravagances, but you all know how well it was done, and how in a few years, somehow, the house and the hall were paid for. With our increasing library it was soon found that we needed skilled assistance, and one extravagance, as some thought, has proved a great blessing. In securing a well-trained librarian, Miss Noyes, to take charge of our books, we did one of the best strokes of business ever done for the faculty, and it appeals to one's sense of the fitness of things that after years of labor in very cramped surroundings she should now have library accommodations equal to the best in the country. How much the success of the meeting is due to the efforts of Miss Noyes and her staff, the members of the various committees can testify.

It is an immense gratification to think that my name will remain permanently associated with this faculty. Among many kind tributes for which I have to thank my friends, none has ever touched me so closely. As a boy some of my happiest recollections, in the early sixties, are of school days in a small Canadian town, where in the summer evenings we paraded the streets, company formation, with a bonnie blue flag bearing a single star and singing "Maryland, My Maryland." Little then—or later—did I dream that my affiliation would be so close with this state, and that with it, through your gracious act to-day, my name may find its most enduring remembrance. These festivals illustrate how quickly the memory of a name perishes. In how many minds did the mention of David Hosack arouse a thrill of remembrance? His works—and they were good ones—have perished, and his most enduring association is with the hall of the Academy of Medicine which bears his name—and this is likely to be my fate. We can imagine a conversation in a library—the year 2009—between two assistants, wearily sorting a pile of second-hand books just sent in.

"What are we to do with all this old rubbish by a man named Osler? He must have had very little to do to spoil so much paper. Where did he live, anyway?"

"Oh, I don't know; Baltimore, I think. Anyhow, they have a hall there that bears his name."

And now that you see fulfilled the desire of your eyes in the possession of this beautiful new building, what is the special message of such an occasion? A double one—to the profession at large and to ourselves in particular. This is the home of the physicians of this state, with all the advantages and associations which we connect with that word. The faculty, as has already been remarked, represents a unique type of organization in this country. State societies exist everywhere, state examining boards are universal, and libraries are multiplying rapidly, but only in this state are the three so combined as to give to the profession its proper solidarity. This means much more than is represented by the Academy of Medicine, New York, the Library Association of Boston and the College of Physicians, Philadelphia, which are local civic institutions. Here the organized profession of the entire state is in control. It is to be hoped that the good example of Maryland may be followed, and that other state medical societies may secure in each capital a building for the accommodation of the examining board, the state society and a library. The leaven of progress and of unity has been working, and the reorganization of the American Medical Association has aroused great activity in the state and county societies. And to the energy and business skill of one man may be attributed much of the phenomenal success of late years of the American Medical Association and its journal, a success of which every member of the profession should be proud.

In part this building may be attributed to the new spirit and we may hope to see before long in Trenton, Richmond, Harrisburg, Albany and other capitals, homes on similar lines. No one can have participated as I did in the work of this society without feeling that it is one of the most potent factors for good in the city and state. The annual and semiannual meetings, benefiting alike hearts and heads, have brought us together in friendly rivalry and have strengthened the bonds of good fellowship. All crave companionship and encouragement, particularly when young, and these gatherings help to counteract the sterilizing influence of that isolation in which so many men have to work. Look about and ask: Who are the happiest men in our ranks? Those who do not neglect the gathering of themselves together at our meetings. Who are the busiest? Those who are the most faithful in the discharge of their duties to the society. Who are the most prosperous? Those who have given to it much of their time and substance. I could enumerate other benefits, but we are fortunate to have this year as our president one of those typical products of the faculty, a man whose family has had affiliation with it since the foundation, and who represents in his character the highest type of physician and the best stamp of citizenship. It is one of the great merits of this society that it holds up to emulation and delights to honor men of this stamp, who have loyally maintained our best traditions while living the exacting lives of general practitioners.

This faculty represents an organic pattern in which the old and the new form the warp and the woof of the life of the profession of this state. Father Time, who plies the shuttle to and fro, has inserted webs of innovation as in 1895 and 1909, but the pattern remains essentially the same. We, the members, pass on—the faculty endures; the lives which make it die, but its life survives. The past has a charm and a use not always evident to ordinary eyes. In the orderly evolution of Nature the old and the new are never dissociated. Of this our bodies offer many illustrations. In the very temple of the mind itself, stowed away in its depths, lies the mysterious pineal gland—the seat of the soul, said the old philosophers; but to him who can read, here, in the presence of the latest and most complicated bit of Nature's mechanism is a remnant of the very old, of a third eye which was of use to an early vertebrate ancestor as he flopped about in the primeval marshes. Why should it be there? Of what use? Why should we be full of these vestiges, useless, often harmful? It is part of the purpose of life ever in this way to blend the old with the new. Habits, customs, opinions, beliefs, influence us out of the past, sometimes helpfully, at others hurtfully. For example, in any medical organization on such an occasion as the present, when a device was needed for the beautiful medal which has been designed by Max Broedel, it was not possible to use anything else but the Æsculapian serpent, an emblem which speaks to us of a long past, when we took our origin in the most gracious and useful of the Grecian cults. Every prescription we write tells of the days when the Arabian was our master, when Avicenna swayed the profession to a unit. And still more does our every-day language call back theories and opinions which have long since passed into oblivion and are as useless as the pineal gland or the vermiform appendix.

The secret of success in an institution of this kind is to blend the old with the new, the past with the present in due proportion, and it is not difficult if we follow Emerson's counsel. "We can not overstate," he says, "our debt to the past, but the moment has the supreme claim; the sole terms on which the past can become ours are its subordination to the present." Let me indicate very briefly how the old and the new may be interwoven in the life of this faculty.

The written records of the profession of the state will be found on our shelves. Let it be known that collections of letters and of documents of all sorts will here be housed in a fire-proof building, catalogued, bound and indexed, and there will soon be additions of value to the interesting papers already in our possession. The Nathan Smith letters should be here on deposit with the story of that noble man's work at Dartmouth and at Yale. Perhaps it might be more fitting to see them in the library of one or other of those institutions, but for three generations the family has been intimately associated with this faculty and with the life of this state. Let people know that we are not greedy in this matter, but only anxious that such priceless treasures should be on deposit where they are absolutely safe. From these records, the private letters of the old doctors written to their friends, patients and relatives, we get a vivid picture of the past and are enabled to reconstruct their lives and their times. Throughout the state there are scores of documents which it is to be hoped will gradually find their way to our archives. In each generation some one man knows the value of such documents and is willing to collect and classify them. It makes one sad to think what we missed in American medical history when the Toner collection slipped out of our hands, and I am glad to think an accident of that sort could never happen again. A good start has been made and you will see treasures which the care of former librarians has preserved. The first medical diploma issued in America, to Dr. John Archer, a Maryland man, hangs on the wall, and a picture of his old medical hall, a sort of private cross-roads medical school. I would urge on the library committee the importance of fostering this side of its work. Nowadays the arrangements for binding, cataloguing and displaying letters and manuscripts have reached a high grade of perfection, and this fireproof building should attract many important documents relating to the profession.

The library has more than doubled since our removal to 847 North Eutaw Street, and now contains 17,533 volumes and 10,869 monographs and reprints. A great majority of these additions are new, the books having been bought by the Frick fund and by the Book and Journal Club. Nothing neutralizes the new more effectively than the presence of old books. An Aldine here and there, a few fine parchment bound Juntas, an Oporinus or a Froben in the original boards and stamped pigskin, a fine Paris Stephanus, an Elzevir or a Plantin give tone to the shelves, just as do the Stuarts and Copleys to the dining room and in an old mansion. The difficulty is that for library purposes nearly all books are old. Nothing ages so quickly as a book—no life so short. Often still-born from the press, not one in ten thousand has the life of its generation, not one in a hundred thousand lives out the allotted years of its author; one or two in each generation are immortal, having in them that potency of life of which Milton speaks. On what principle, then, should a library of this character select books? For reading purposes a decade will age every book issued from the press this year; that, no doubt, is the hidden meaning of the old proverb about every book having its fate. Under such circumstances, deliberately to buy old books may seem a superfluity of naughtiness on the part of a librarian. There is an immense old literature which it is not worth while to seek. In our large collections, miles, literally miles, of shelves are filled with books as dry as the bones in the catacombs.

Some one library in the country must have all the books, and in the Surgeon-General's library there is a collection which aims at completeness. If you wish to see all the Junta editions of Galen, go there; if you wish to see a pamphlet by John Smith, of New Orleans, on the treatment of yellow fever by the application of sulphur to the soles of the feet, go there; all the odd and out-of-the-way literature may there be consulted, and the student who wishes to know the story of Valentine Greatrakes and of Perkins Tractors has only to go to Washington. We can not be too grateful to the men who have established this great national institution, one of the most successful of modern libraries—to Surgeon-General W. A. Hammond, the founder, to Dr. Billings, the maker, to successive Surgeons-General, the promoters, to Dr. Billings and to Dr. Fletcher for the Index-Catalogue, one of the most important works on bibliography ever undertaken.

To the national library, then, may be left the duty of indiscriminate purchase, on the principle that it should have everything that any one can possibly ask for. The local libraries have a much more limited, but not less interesting field to cultivate. In the first place, all the medical literature of the state should be here—the journals, the reports, the transactions and the editions of all the books written by men who have been connected with the state—by no means an easy task; it takes years of anxious hunting to fill gaps. This work generally falls to the lot of some enthusiast on the library committee. Fortunately, keen eyes for many years looked out for these items, and this part of our collection is on a fair way to completion. Then there is a group of books which may be called American medical classics, the more notable contribution to medicine and surgery made in the eighteenth and nineteenth centuries; Morgan's essay which led to the foundation of the University of Pennsylvania, Jones' "Manual of Military Surgery," Nathan Smith on typhus fever—works of this sort should be on our shelves. Thirdly, the bibliography of the more distinguished American physicians and surgeons should be made as complete as possible. Of the writings of some forty or fifty men every scrap deserves to be sought for—men of the stamp of Nathan and Nathan R. Smith, the Bigelows, Samuel D. Gross, Austin Flint, Henry I. Bowditch, W. A. Gerhard, Daniel Drake and Oliver Wendell Holmes.

And, lastly, a library with any ambition will wish to have the original editions of the great medical books of the world. Care must be exercised not to allow a library to be made the dumping-ground for all the old quartos and folios of the seventeenth and eighteenth centuries. There are plenty of very handsome volumes not worthy of shelf-room. This part of the work takes time and money and more of both than are usually at the disposal of the library committee. In every city of this size there is usually a physician with the happy combination of literary tastes, leisure and a long purse, to whom should be entrusted this part of the literary work. With only the taste and the knowledge he can use his colleagues' purses and induce Dr. Blank to give an original Harvey "De Motu Cordis" or a Jenner pamphlet or an early Mundinus. The fine old books on exhibition show that much has been done already in this direction and I have no doubt that within a few years this department will grow rapidly. To mark this happy occasion, and to rejoice Miss Noyes' heart, I could not resist buying in Rome the original edition of Vesalius, 1543—one of the two medical works which has most powerfully influenced modern medicine. Special collections are of exceptional interest and we are fortunate to have the library of Dr. Upton Scott, our first president, the books of Dr. Charles Frick, and a unique group of 120 Edinburgh theses by American students of the colonial and early nineteenth-century days.

With manuscripts and books, pictures are naturally associated and our gallery, old and new, grows rapidly. You remember how the centennial celebration brought out a group of fine portraits and we benefited at that time in getting the Baker, the Buckler, Miltenberger, Wilson, Frick, Arnold, Friedenwald, Archer, Stokes, N. R. Smith, Atkinson, Rohé, Preston and other pictures. There are many others in the state and city whose ultimate destiny should be these walls—if not the original, good copies supplied by the families are very welcome. This is our Pantheon, in which there should be a memorial of some sort to every distinguished old Maryland physician. When we look about and see what has been done since our move to Eutaw Street the faculty may well feel encouraged. One of the most fortunate events of the past fifteen years was the memorial room and library given by Mr. W. F. Frick in memory of his brother Charles, a most distinguished physician of this city and a devoted member of the faculty. To the Frick family we are under a deep debt; not only has the special library been an inestimable boon, as with the money annually given a large proportion of the new books have been bought, but it has been also a happy example followed in the new building and the rooms devoted to the memory of Dr. Aaron Friedenwald and Dr. Samuel Baker. In what happier way could these families have paid for themselves and for us the debt of the past?

But let us not forget that the moment, the now, the present, has, as Emerson says, the supreme claim to which the past must be subordinate. The most important single function of this corporation is educational. This is really a postgraduate college of which the members remain students. I am delighted to see that a room has been provided, through the liberality of Dr. Hugh Young, in which members may do their own laboratory work. This is a feature in the life of the faculty which should develop and be most helpful. It should be the ambition of every young man as soon as possible after registration to join the faculty. Until within the fellowship he can scarcely be called a member of the guild. Take the group which has joined at this meeting, bringing in youth and enthusiasm; year by year they will grow into the life of the faculty and on them time will stamp the slow insensible changes which hall-mark the generations, but which shade so gradually that there is no sharp cleavage, but the seniors and juniors, the new and the old, are blended into one homogeneous body.

By far the most important channel through which the new pours in to mingle with the old is the current literature of all lands with which our shelves groan. An important function of this faculty is to furnish first-hand information from every medical center in the world, and this it does through journals, transactions and reports. A library such as this has to cater to three groups—the laboratory workers, the specialists, the general practitioners; and it has become increasingly difficult to meet their demands. In a city with large laboratories there should be close cooperation, so that expensive journals are not duplicated, and workers should know just where to look for sets of rare proceedings or transactions. In the present congested condition of medical literature, only Washington can hope for completeness, and the laboratory men and specialists must not complain at the large size of the lacunæ on our shelves. It is not so difficult to keep up with the demands of the man in active practice, who wants the current journals, the new editions, the monographs and the systems, and it is on these the main energies of the library must be spent, but it passes the capacity of all but a few great libraries to deal with the perfect avalanche of special literature at the present day. In certain directions the *Index Medicus* is an immense help and meets a pressing demand, but we have reached the stage when every tenth year, or, indeed, every fifth year, stock should be taken by some international cooperative organization which should deal with the large problems of analyzing the data pouring in from every quarter, on every possible subject.

During the next century the new and the old will fight it out in these rooms in keen discussions, just as they have done since the days of Hippocrates. Time and again it will happen that the new will not be true and the true will not be new. The yesterday is forever being brought to trial at the bar of to-day and the verdict is rarely unanimous; often it is wisely a case of judgment deferred. Look over the questions discussed twenty years ago; some are dead—judgment gone by default; some are still pending; a few are settled—or we think they are; many seem antiquated. Turn to the program of the present meeting and we find new problems propounded, sometimes in language which requires interpretation, old problems that the present seems never able to get rid of, and in others we recognize old friends in disguise. How interesting to look back over the faculty attitude toward the subject of tuberculosis, with the modern history with which it is *coeval!* Brought up in the hazy pretuberculosis days, what did Upton Scott, our first president, think of the young men fresh from Paris, and their demonstrations of Laennec's views? A generation or two later Power and Buckler and Charles Frick were propounding Louis. Then in the seventies the heresies of Niemeyer and Virchow were discussed by Donaldson, Chew, W. T. Howard and others. How the hosts of the past fought against the bacillus when it was announced, and did not prevail, how the public was finally awakened, how tuberculosis was put in the list of preventable and curable diseases—these are questions of recent history. In this quintette of problems bearing on but one disease, which it has taken a century to solve, the new and the old are curiously blended again; they are not in clear-cut strata.

The idea of contagion in tuberculosis goes back to Frascatorius and even earlier, while you will find in Celsus excellent directions for the fresh-air cure combined with a milk diet. To meet the educational side of the faculty the entire organization has been changed and the special sections and the publication of its own journal are important new departures.

Amid these hopeful and splendid surroundings, which can not but influence it profoundly, the old organization enters a new era. Do not forget that it takes some time for the domestic machinery to get into good working order, but the rapidity with which the rooms have been prepared, the books moved and the whole place made comfortable speaks for the great efficiency of the staff.

In one of his Hibbert lectures last year at Oxford, William James made a remark that clung: "We live forward, we understand backward." The philosophers tell us that there is no present, no now—the fleeting moment *was* as we try to catch it. In the opening of this new building we have to-day made a happy addition to a happy past. Toward this day we have all lived forward, and the future should still be in our thoughts. This old faculty must continue to be our rallying ground—once inside its portals, schools, colleges, hospitals, societies, all other affiliations are absorbed in something vastly greater, which includes all and claims from all devoted service, the united profession of the state. The progressive evolution of such an organization demands the loyal support of every member. In all societies differences of opinion are not only inevitable but salutary. From time to time many of you will not approve the policy of the officers of the day —do not let your annoyance dim your loyalty. Professional politics have never been, and I hope may never be, a marked feature of this body, but whenever any of you feel sore at the action of those in charge let me ask you to find a cure in devotion to the scientific work of the sections or to the library.

But the best of all things about this faculty is that subtle force by which the men of the past influence us to-day—not by tradition, by the spoken word, handed on from father to son, teacher to pupil, not by the written record in which one generation reads of the deeds of another, but by that intangible, mysterious force hard to define but best expressed in the words *noblesse oblige*—that obligation to act in a certain way, to foster certain habits, to conform to certain unwritten laws—a sacred obligation, as potent now as in the time of Hippocrates, the alchemy of which at once turns to gold whatever may be leaden in the new of to-day.

Treatment of Burns.—Lejeune of Frankfurt a. M. writes to the *Zeitschrift für aerztliche Fortbildung*, June 1, 1909, to report his method of treating burns. He declares that the burning itself has disinfected the tissues and the exudating fluid is sterile. All that is necessary is to keep it sterile and this he accomplishes by placing the burned part in a position so that the blister forms a spirit level, as it were, with its horizontal surface over the largest area. He then injects into the bulla a little bismuth, leaving the skin intact except where the cannula was inserted. The bismuth soon settles to the bottom of the blister and the fluid contents are then aspirated through the cannula left in place. The blister skin sinks down over the bismuth and the tiny hole is closed with a bit of plaster. The part is then dressed with mull and dry cotton, left for about a week. Burns thus treated heal remarkably fast, often in half the time with other technics, without scars or contraction or even appreciable pigmentation in the burned area.

Original Articles

THE UNRELIABILITY OF THE ASTIGMATIC FAN OR CLOCK DIAL TEST *

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Nearly all books on refraction give a very large and probably undue amount of space to the astigmatic fan test. There have been a considerable number of later writers who affirm that the astigmatic fan test combined with the fogging method even obviates the necessity for the use of cycloplegics. It is my purpose to prove that the test is very unreliable in a large percentage of cases, and that only by accident is it ever accurate.

It is possible to have the lines appear unlike when the patient has no regular astigmatism. Moreover, it is often true that the lines may look alike in the principal meridians, and yet the patient and victim may still have remaining some astigmatism that ought to have been corrected. Considerable fault may be found with the test, for the additional reason that the average patient, from inexperience and lack of concentration, does not know what is expected of him in the test. Experience has demonstrated these points:

1. If there are three lines, the patient may decide by the middle line, or he may notice only the outside lines. If the lines are partly doubled he may fail to refer to the fact. Blackness is often confused with distinctness.

2. The patient often answers according to a view affecting a peripheral part of the lines and not that covering the macular region.

3. Often adjacent lines are the lightest and darkest; thus 60 may be the lightest and 90 the darkest, while the patient only mentions the most distinct.

While all will admit that it is easy for the average patient to misunderstand the fan test even if it be founded on correct principles, yet in our further argument we will assume that answers are always given with scientific accuracy. Our contention is that even under conditions so favorable, the fan test is unreliable. As an example, if such a patient with relaxed accommodation requires a correction of plus 2.00 D. sphere, combined with a plus 1.00 D. cylinder, axis 90, it will be true that if a plus 3.25 sphere is put before the eye, both meridians will be myopic; the diffusion image might in such a case resemble a vertical line, and the vertical line on the clock dial will be the most distinct. If a plus 3.00 is used, the assertion will be made that the diffusion image becomes an exact vertical line, but incidentally it may be stated that in the human eye the diffusion image never resembles a geometric figure. With a plus 2.75 the vertical lines will still be the most distinct, while with a plus 2.50 it is stated that it will give an exact circular diffusion circle and thus all the lines on the dial will look equally distinct. Practically such a condition never occurs, as the diffusion image in the best eyes never becomes an exact circle.

With all lenses weaker than plus 2.50 it will be claimed that the diffusion image becomes horizontal and that these lines in the fan become correspondingly most distinct.

One clock dial enthusiast has asserted that in lowering the lenses from plus 3.00 gradually to plus 2.00, the vertical lines, 90 first, become distinct, next the 60 and 120 become the clearest, and later, in order, 30 and 150, and last the horizontal. This is a very gross error because the diffusion image never assumes the shape of a geometric cross with flexible angles merely by a change in spherical lenses. If such erroneous ideas can be believed, no wonder a few optical, correspondence and postgraduate schools assert that refraction can be learned in a few weeks, and that cycloplegics are unnecessary.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

If the cornea is divided into two halves, either horizontally or vertically, generally it will be found that the center of the diffusion image of each part never corresponds exactly with the center of the other part. In the same way the cornea may be divided into quadrants, or into as many sectors as desired; yet it never can be supposed that the center of the image for each sector lies exactly at the same place as the others.

The serious mistake made by all fogging clock dial enthusiasts lies in supposing that the center of the diffusion image for each sector lies exactly on the theoretic optic axis of the eye. As an illustration, take the case of an eye which can not be improved either by a spherical or cylinder lens, yet in which the upper part of the cornea creates a diffusion image which slightly overlaps that of the lower part (Fig. 1). This overlapping may be compared to that of binary stars which through telescopes are seen to overlap slightly. It sometimes takes years of observation by astronomers to note if the stars revolve before it can be decided whether or not they are double stars.

With such an overlapping diffusion image vertically placed it may be stated that if the refraction is fogged by placing on plus spheres the vertical lines will yet remain the most distinct. If the attempt is made to force the diffusion image into a rectangular or circular outline by plus cylinders placed vertically, the result will be only disaster because the horizontal part of the image will only be diffused and not rendered more distinct. Minus cylinders would have the same effect if both meridians were fogged. Thus the great evil of the fogging system is in failing to give clear and condensed diffusion images, while merely permitting cylinder-diffused images with a somewhat more circular or symmetrical outline.

Even if millions of eyes were corrected with the best possible spherical and cylinder lenses, the resulting diffusion images would have every possible fantastic shape. No two of these would be alike. Take as an illustration a resulting diffusion image, similar to Figure 2, having an angle with one arm placed at an angle of 30 degrees to the horizontal. In such a case the horizontal clock dial lines and those at 30 always ought to be the most distinct when fogged. If the fan is made up of a series of dots, as in Figure 3, it is easy to see what the result would be by placing Figure 2 over each dot.

Figure 4 shows a drawing made up of the diffusion images of each of my eyes, made while looking at a round electric light seen a mile distant at night time. The vision of each of my eyes is more than double the normal, equal 20/10.

In the study of the refraction of an elderly woman's eyes it was found that she could see fairly well with almost every glass in the trial case. I then asked my assistant to put every sphere in the trial case before her, starting with the strongest plus down, and noting the vision with each. I then had the results platted to scale on quadrille ruled paper, the horizontal lines showing the vision and the vertical lines the strength of the lenses. It was perceived that there were two peaks of best vision several diopters apart, showing a rough test for astigmatism.

I then had the patient make a drawing of the diffusion image of a very small gas jet. It was shaped somewhat like a cartwheel, with a very small central hub (Fig. 5). With the retinoscope and further use of the trial lenses it could now be perceived that there was only a very small central part of the cornea to which attention need be given, and that it acted in her case like a pin-hole disc, and, furthermore, that while the peripheral parts were very astigmatic, they interfered but slightly with the vision. Obviously such a case would merely be muddled with the fan test.

It is impossible to find in the United States or in the world a human eye which does not have irregular astigmatism, while there are many that have no regular astigmatism which can be benefited by a cylinder. Some of the ancients drew their star-shaped figures as having five points, and some six, and others more or less. Irregular astigmatism always tends to render the fan test unreliable and worthless.

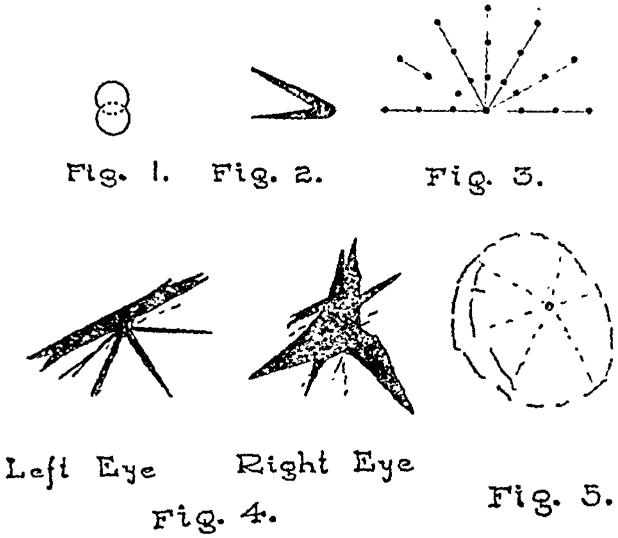
Fig. 1. Fig. 2. Fig. 3.

Fig. 4. Fig. 5.

Figs. 1-5.—Various forms of diffusion images.

The essentials required in careful subjective refraction are a complete trial case including cross cylinders and test letters. The test with these ought to be made in difficult cases with varying illumination and at varying distances. A weak illumination at a short distance may reduce the obscuration by irregular astigmatism, so that the patient may definitely decide what glass gives the most distinct vision. Furthermore, this may require the faithful use of a reliable cycloplegic, combined with further tests made with enlarged pin-hole discs of two, three and four millimeters diameter. If the patient is told to look exactly through the center of these openings, the shadow of these discs will lie concentric with the macula and therefore practically concentric with the pupil.

As the eye is composed of flexible structures, the best results will follow from the study of a wide average, testing the vision with one eye alone and then with both open, alternating with both fogged and later with one at the most distinct focus. It is also well if the tests can be made both before and after the use of a cycloplegic. In many cases these tests require infinite patience and much time and repeated trials, even by an oculist who may have made a prolonged study of every law of theoretical optics.

In visiting my brother, Mark D. Stevenson, at Akron, Ohio, a short time ago, I noted that his office was without a fan test chart. It is true that many well-equipped oculists' offices will be found in which all clock dials, from Green's many varieties to Verhoeff's finer lines, *all may have been sensibly consigned to the waste-basket.*

In a recent article[1] by D. B. St. John Roosa, some ideas are expressed which might have appeared correct in the middle of the nineteenth century, but which are not consistent with the scientific progress of the twentieth. Following are a few quotations from the article to which exception may well be taken:

> 1. I present what I conceive to be safe and sane views on this subject. These views I also believe in the main are those of the majority of ophthalmologists.
>
> 2. The field of abnormal refraction is actually not entered as far as hypermetropia of a low degree is concerned. It is not reached unless it is of a degree higher than, for instance, two diopters, or unless corneal astigmatism is added to it.
>
> 3. I deny the existence of muscular asthenopia, except as dependent on errors of refraction, standing by my views expressed in 1890; I do not find any value in prisms or in decentered glasses, except in cases of paralysis of the ocular muscles, and for years I have not prescribed them, except as above indicated.
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> 4. To see as well as one can is always desirable, and I have no fear like that so often expressed among the laity, of having glasses too strong either in myopia or hypermetropia, so long as those chosen give the best vision. If they secure this and the patient complains of pain, it may be assumed that the pain is not from the wrong glasses, but from the eye itself.
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> 5. I do not believe that a difference such as a quarter of a diopter will make any essential difference in the vision of a patient, and especially not in his ability to use his eyes without headache or other asthenopic symptoms.
>
> 6. Unprejudiced judicial examinations made by thoroughly educated and widely experienced men, in my opinion, show the belief that eyestrain causes neurasthenia to be incorrect.
>
> 7. What I believe to be almost infallible evidence against the existence of eyestrain in a given case is the absence of ocular symptoms. . . . In short, before there is eyestrain, there is always some symptoms in the eye itself.
>
> 8. Migraine and neurasthenia will soon cease to be treated through the muscles or refraction of the eye.
>
> 9. Largely counseled by the late Dr. E. G. Loring, I had abandoned retinoscopy as the most difficult and least satisfactory of the methods of determining the refraction of an eye, which contributes nothing that can not be more easily and more expeditiously performed by the upright image.
>
> 10. Fortunately the use of the ophthalmometer is easily learned. With a good teacher, in two weeks' daily practice, a man at all skilled by education and experience in other manipulations and observations will be able to go by himself.

As to the second quotation, it may be stated that of all glasses ever given, probably more benefit has resulted from a hyperopia corrected of less than 2.00 D. than of any spherical type. In numberless cases patients of this class have truthfully told their oculists that if their glasses could not be replaced, no money could buy their present ones, as life would be considered unendurable without them.

As to the third statement, it is within the bounds of absolute truth to say that in such conditions as hyperphoria and allied conditions prisms have been of untold value.

Neurasthenia may have many causes, from fatigue to autointoxication, but eyestrain is undoubtedly one of its most prolific causes in this age of overworked vision. As to the severe migraines, such as have a distinct heredity and compel the patient to go to bed, a considerable proportion are not relieved by glasses; yet there remains a large percentage of migraines which have been entirely cured by careful refractive work.

As to the comparison between the objective methods of testing, such as the ophthalmometer, the retinoscope and the direct method, it can be truthfully said that the retinoscope is better than either of the others, as its measurements can be taken from the macular region.

The axis of astigmatism is seldom definitely shown with the direct method and is always uncertain. The ophthalmometer shows only the anterior part of the cornea and therefore it is totally incomplete because it fails to give the lenticular astigmatism, while that of the aqueous, vitreous and posterior layer of the cornea are neglected. The statement that the ophthalmometer takes the place of cycloplegics is not worthy of the least consideration and ought not to pass unchallenged.

Almost every ophthalmologist of fifteen years' active study and practice will affirm that during the last years of his practice his refractive results have improved marvelously, while his former tests were something to be surprised at and possibly ashamed of. In no branch of his study and life-work has more real gain been made by experience and constant education than in his personal refractive training. Refraction is the work of a lifetime and a study that is never completed.

ABSTRACT OF DISCUSSION

DR. J. THORINGTON, Philadelphia: Of course most of us prefer to estimate astigmatism with the retinoscope, but when we can not use cycloplegics we must resort to other methods; for instance, the astigmatic clock dial. In the selection of the clock dial it has always appeared to me that the two chief and common meridians are 90 and 180. Dr. Risley and I presented a paper on this subject a few years ago showing that 58 per cent. of the patients selected a plus cylinder, axis 90, or a minus cylinder, 180, or the same if taken against the rule. Therefore, the charts that have the lines running from 9 to 3 and 12 to 6 should have these lines cross at the center of dial. Then properly instructing the patient to fix his vision at the crossing and not allow him to cast his eye indiscriminately at various lines I am careful then to give the patient an opportunity to make exact statements that will guide me in the selection of the axis and frequently give an idea as to the strength of cylinder in given cases. I feel therefore that the astigmatic chart on which the lines do not cross as just suggested is not the unique astigmatic chart of to-day. Now we are delighted that the refracting opticians resort to the astigmatic clock dial because they draw the attention of the public to the fact that the lines do not appear equally black. They make a strenuous effort to correct that condition with the result that the patient frequently goes away dissatisfied, fearing he is wearing the wrong glasses. When he reports to the oculist the latter finds his suspicion correct and is correspondingly delighted—the one good thing about a refracting optician. You know we do not find very many.

In a few cases we have to resort to some subjective way of finding out about astigmatism. In such cases we test first with the astigmatic chart and then at subsequent visits follow with other methods. As Dr. Stevenson says, we omit to present the astigmatic chart at the final visit, but we convince the patient that his correction is what it should be. I therefore do not feel that the chart should be relegated to the waste basket, though my preference would be retinoscopy. As the refracting optician is partial to the chart, however, I think it is wise for each one of us to have a chart of some one of the numerous varieties to hang in the office to convince the patient that we are acquainted with it and know how to use it, while we feel there are other methods superior to the astigmatic chart.

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[1] The Proper Method of Determining Errors of Refraction and Their Actual Relation to the Ailments of the Human Body, THE JOURNAL A. M. A., Feb. 15, 1909, p. 543.

In the main I agree with Dr. Stevenson, particularly that there are times when certain lines and certain areas or spots are darker, whatever the test may be. But that brings out this fact: For a long time it was taught that astigmatism was corneal only. Now we know by careful statistics and study that one patient in four has some lenticular astigmatism. This we can bring out with the chart. But we have other ways of bringing it out, and it is not necessarily corneal. We see with the ophthalmometer that there is no astigmatism on the anterior surface of the cornea and therefore we must consider it as lenticular, and it is by the use of the astigmatic chart, the ophthalmometer and the other means that we are able to state whether it is corneal or lenticular astigmatism. In my experience it is mostly the patients with lenticular astigmatism who give the erroneous answers referred to by Dr. Stevenson.

Dr. F. W. Verhoeff, Boston: Dr. Stevenson's highly theoretical objections to astigmatic charts, it seems to me, are based on a fundamental error. He has made deductions from the study of the complicated and intense diffusion image of a very bright source of light. I called attention to this error nine years ago in a paper on monocular diplopia. In fact, strictly speaking, Dr. Stevenson apparently did not study diffusion images at all, since we are to infer from his paper that his eye was accommodated for the source of light. The diffusion images that actually come into play in the tests with astigmatic charts may be studied by observing a small black spot on a white piece of paper, different degrees of blurring being obtained by varying the accommodation or by means of test lenses. The spot should not be too minute, otherwise misleading information will also be given here. The various monochromatic aberrations of the eye undoubtely affect the appearance of the lines in astigmatic charts, often materially, but not to the extent that Dr. Stevenson would have us believe. Dr. Stevenson seems to overlook the fact that these aberrations also affect the appearances of the test letters, rendering some relatively more distinct, others less so. This explains one of the important difficulties in determining astigmatism by reference to test letters alone. My experiments as well as my clinical experience have convinced me that astigmatic charts are distinctly superior to test letters in the determination of astigmatism. When properly used the important aberrations of the eye may be recognized and allowed for. From a psychologic standpoint astigmatic charts are superior, since direct camparisons of very simple impressions are made, whereas with the test letters a present complex impression is compared with the memory of a past one. Astigmatic charts also save much time and are less fatiguing to the patient. After determining the amount of astigmatism by their use an attempt may of course be made to improve on the result by the test letters, but as a matter of fact I am never able to do so. I can not agree with Dr. Stevenson that the text-books on refraction give an undue amount of space to astigmatic charts. On the contrary, I have yet to see a text-book in which the test with astigmatic charts is adequately described. By the manner in which he refers to them I judge that Dr. Stevenson does not understand the principle on which my charts are based, although I am sure that I explained it clearly enough in my original description.

Dr. J. W. Park, Harrisburg, Pa.: I have for the last ten years at least discarded the chart because there are so many unreliable replies. I have found that the retinoscope is the most reliable, and I think every man should practice to become expert in its use. I use the shadow test in all cases even of presbyopia, with a very small mirror and a very small opening in the mirror, not over 6 or 7 mm. and in presbyopes there are a number of small pupils in which you can get a small shadow. But by doing a great deal of that you can determine your axis when the pupil is dilated. There is no great trouble to get the axis of astigmatism, by putting the patient in the chair and putting cylinders on first and then putting on the test lenses; nine times out of ten you will have the axis right, and then it is a question of straightening the cylinder. I make that a particular point, for there are so many who can not judge between the shades of the lines and I think that the retinoscope is the thing to decide that.

Dr. Oscar Wilkinson, Washington, D. C.: In my opinion, the use of the retinoscope even without cycloplegia is much easier than the average man appreciates, and in cases in which I do not wish to use cycloplegia I find that the use of a drop of cocain in the eye will often give us a sufficiently large pupil to do a good retinoscopy in cases otherwise troublesome. In my experience the clock dial or astigmatic fan is the least accurate of all our tests. I have found corneal astigmatism with the ophthalmometer relatively more correct in a larger percentage of cases than is found in the statistics of others. In fact, I think that we are too careless in the use of the ophthalmometer. I have been in the offices of several of my friends who do not appreciate and do not use it, and found the ophthalmometer sitting out in the open room, and they have tried to use daylight, or the electric light in front of the window. I put mine in a dark room and give it an opportunity to show results, and I get results with it.

Dr. Leartus Connor, Detroit: I do not know of any one instrument or process on which we all agree—a fact quite within the limit of what we should expect, as we are unlike both in our methods and habits. In regard to astigmatism tests, taken in connection with the other tests mentioned, I would not dispense with the chart. If I had to depend on it alone to determine astigmatism I should be at fault, as with any other one test. But as to each case I apply every known method to determine the irregularity of cornea and the lens, my results are satisfactory. So my belief is that we shall get the most satisfactory results only when to every case we carefully apply every test. In the case of my own eyes, which are astigmatic, it has been many years since I found any variation from the lines on the chart. They are perfect, and I expect in every intelligent patient to leave a like condition.

Dr. Edward Jackson, Denver: My story of the clock dial test perhaps is best expressed by the fact that I do not use them habitually, or do not use them at all, and have not used them since I was busy enough to confine myself to what I believe to be the best tests. The inaccuracies depend very largely—not entirely and not in all cases, but in many cases—on the size of the pupil. With a small pupil they do not exist, or exist only in slight degree. With a pupil dilated by a mydriatic they are serious in almost all eyes; so that the optician without the mydriatic is perhaps at a little advantage over the ophthalmologist who uses the mydriatic. A mydriatic, however, is not necessary to induce the inaccuracies. Most opticians' test rooms and most ophthalmologists' offices are sufficiently dark to get a considerable dilatation of the pupil, so that these inaccuracies are induced, and as a matter of fact if you care to subject the patient to the final test with the psychologic risks that have been referred to, you will find that very few, like Dr. Connor, see the lines equally clearly in all directions. After the best correction there may be astigmatism that will cause them to say one eye is better and the other worse. Getting them all clear is an impossible ideal, unless the patient be so sluggish that he does not notice slight differences.

Dr. John Green, Jr., St. Louis: Especially in the estimation of a dynamic refraction, I regard some form of clock dial as indispensable, and I greatly prefer the astigmatic charts of Dr. Verhoeff. I have been using these charts for four years and I find that, carefully and patiently used, they give results which approach surprisingly near the results we get under cycloplegia. It is necessary to take a good deal of time and to make sure the patient understands what he is to look for. Some years ago Dr. Spratt of Minneapolis made a series of tests with Dr. Verhoeff's charts both without and with cycloplegia and found that the difference in the two results was surprisingly little.

Dr. Wendell Reber, Philadelphia: I was delighted to find myself in Dr. Jackson's class. I practically use the chart not at all, and what Dr. Jackson said about the size of the pupil is the strongest argument against it. It is my humble opinion that the time spent in educating the patient to understand the game of using the chart if spent on other methods would bring better results.

Dr. D. W. Stevenson, Richmond, Ind.: I expected more criticism on advocating that an old plan be done away with. I suppose that there are doctors who are still using sarsaparilla in their mixtures. I have studied this test for years, under such authorities as Dr. Gardiner and Dr. Hotz of Chicago. Hotz's astigmometer was the best instrument ever devised in studying small weak points of light, although the fan test is still unsatisfactory by any method in which the dial is used. The optician, of course, uses fogging methods. Some oculists do not use the fogging method; but if they will wait, time will prove that the fan test is unsatisfactory either with or without fogging. If the pupils are very small, the lines in the fan test will look alike, no matter how it is used in many cases, even those in which there is astigmatism. That ought to be clear, and that is the only hope for any oculist laboring with such a crude test; for after using the drops when the patient comes back he does not see the irregularities that would be there if his accommodation was relaxed. I believe that the fan test will certainly some day be entirely eliminated from all modern ophthalmologists' offices.

DROPSY OF THE OPTIC NERVE SHEATH *

JOHN A. TENNEY, M.D.
BOSTON

Much has been written concerning optic neuritis since von Graefe supposed it to be caused by obstruction in the cavernous sinus, caused by intracranial pressure. The discovery of anastomoses between the ophthalmic and facial veins made that theory untenable. Schmidt-Rimpler and Manz held that the outflow of the venous blood was impeded by pressure on the optic nerve caused by dropsy in its sheath, and as a consequence stagnation of lymph in the papilla. Leber and Deutschmann believe that the neuritis is caused not so much by the pressure as by the toxic quality of the cerebrospinal fluid, which is loaded with the products of tissue change. These theories depend on pressure as the prime factor.

On the other hand, Gowers,[1] Brailey,[2] Edmunds,[3] Mackenzie[4] and others believe that the disease is not due to pressure at all, but to a descending inflammation transmitted from the intracranial cavity. Those who support the mechanical-pressure hypothesis think that it is an ascending process, while those who hold the opposite view think that it is a descending neuritis.

Leber[5] records a case of a patient hydrocephalic from birth, liable to frequent and severe headaches, occasional epileptic attacks and marked loss of sight. At twenty an almost continual dropping of water from the nostril came on, and with it came great relief from the vertigo and epilepsy. The liquid was found to be identical with the cerebrospinal fluid. Similar cases had been reported before by Nettleship,[6] Priestley Smith, Elliotson,[7] Baxter,[8] Paget[9] and Jones,[10] the patient of the latter observer being sixty-seven years old. In all these cases the head symptoms were aggravated when the dropping ceased. Autopsies were held in the cases of Paget and Jones, but no intracranial disease was found.

Leber thought that the cerebrospinal fluid must have passed through a minute opening in the ethmoid bone; but, as there is a normal passage between the third ventricle and the subarachnoid space, it is more probable that the fluid followed the sheath of the olfactory nerve.

Schwalbe many years ago found a communication between the subarachnoid space and the intravaginal sheath of the optic nerve, and it has been demonstrated in recent years that liquids can be forced through these passages artificially. Levinsohn[11] injected cinnabar into the subarachnoid space in rabbits and cats, and later found this substance in the intravaginal spaces of the nerve and along its blood vessels. Kruedener[12] demonstrated in five cases that optic neuritis disappeared after the trephining process, and Abadie[13] reports a patient cured by lumbar puncture.

Case 1.—Six years ago a young woman with light hair and fair skin came to me with double optic neuritis. The vision in the right eye was 3/60, while the other eye could only tell where the windows were in the room. She said she had been troubled with this loss of sight for a year. She had consulted noted specialists in New York and Boston, all of whom told her she would never see again. She vomited every day, often fell down while walking on the street, and had terrible headaches. The length of time that had elapsed since the beginning of the trouble seemed to exclude cerebral tumor, or it must have been of slow growth, it seemed to me. Instead of getting discouraged over the case as others had done, I resolved to act on the assumption that possibly intracranial pressure had produced this state of things. Accordingly, I prescribed potassium iodid in saturated solution, beginning with ten drops three times a day, and increasing by five drops each day. When the patient was taking fifty drops three times a day the characteristic eruption covered her body. The dose was reduced to twenty drops, and arsenic was given to relieve the eruption. In six months she could see 20/20 with either eye.

The treatment in this case was suggested by my experience with a number of patients who came with loss of vision, on whose cases no history would throw any light and no ophthalmoscopic appearances came to my aid. It is in the interest of such patients that this paper is written.

Case 2.—The first of my patients was a schoolgirl of 15, sent by a physician in Plymouth county, fifteen years ago. She said that she had lost the vision of the right eye, and was positive that she had not accidentally discovered blindness that she had had from birth. The ophthalmoscope revealed nothing. The retinal veins looked as well as they do in most cases. On the assumption that pressure on the optic nerve might be the cause of the trouble, potassium iodid was prescribed in moderate doses. In a week the patient could see as well as ever.

Case 3.—In a year or so a girl of the same age came from Maine with the same trouble in the right eye. She said she became blind in that eye the first of May. As it was then the middle of June, there seemed to be little improvement. She was given the iodid, and in ten days she went home. A year afterward she came with the vision more seriously impaired than it had been before. When she looked at a lamp in a dark room she saw a light mist. She said that she had taken the medicine she had before, without effect. The dose was increased; in ten days she went home, and has not been heard from since; the inference is that she has had no more trouble.

In neither of these cases was there any evidence of menstrual or other constitutional disturbance.

Since that time I have seen eight similar cases. I have never used pilocarpin, thinking that the iodid might, with its alterative action, better prevent the return of the disease. In all these cases, marked with sudden loss of vision, with or without headache, in which the ophthalmoscope revealed no changes in the retina, and in which no history threw any light on the trouble, perfect recovery took place.

2 Commonwealth Avenue.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Diseases of the Brain.

[2] Tr. Internat. Med. Cong., 1881, iii, 63.

[3] Tr. Ophth. Soc. U. Kingdom, i, 112.

[4] Brain, ii, 257.

[5] Arch. f. Ophth., xxiv, 273.

[6] Ophth. Rev., January, 1883.

[7] Med. Times and Gaz., Sept. 19, 1857.

[8] Brain, January, 1882.

[9] Tr. Clin. Soc. London, 1878, xii, 43.

[10] Ophth. Rev., vii, 97

[11] Arch. f. Ophth. (Graefe's), lxiv, 3.

[12] Arch. f. Ophth. (Graefe's), lxv, 1.

[13] Clin. Ophth., April 10, 1903.

ABSTRACT OF DISCUSSION

Dr. L. Webster Fox, Philadelphia: We who have been recently investigating various cases of optic neuritis have seen this accumulation of fluid around the nerve-tracts and sheaths which produces what Dr. Tenney has pronounced edema of the optic nerve and sheath. I have been following Drs. Potts and Weisenberg at the Medico-Chirurgical Hospital. There we have operated on fourteen patients by decompression operations and it has been marvelous to see the results in the nerve-heads. One of the most interesting cases was that of a boiler-worker from Baldwin's who received an injury to the eye, which was enucleated. A short time after he came in and we found he had an optic neuritis. He described it as a temporary blindness; that is, when he bent down he could relieve this blindness. It was a rather interesting thing and I had Dr. MacFarland and Dr. Weisenberg interest themselves in the young man's condition. This temporary blindness became worse and worse, and ultimately I insisted on the patient's coming into the hospital waiting-room. He died suddenly and we obtained an autopsy. Between the third and fourth ventricles there was a small tumor, pedunculated, not larger than an almond. It seemed he could throw it by changing the position of his head and open the space and allow the escape of the fluid accumulated in the third ventricle and his vision would become restored temporarily. According to Professor McFarland he died of paralysis of the brain from overdistention. I think that I have never in my whole career seen anything that so well exemplified dropsy. The head of the nerve showed optic neuritis, not as pronounced as we frequently see it in tumor of the brain. It was not solid—the choked disc of the Germans. The microscopic examination revealed interesting conditions. There was a dilated space between the nerve trunk and the nerve-sheath probably four or five times the diameter usually found in these cases. Dr. McFarland has made an examination of the cases and somewhere in his writings he has quoted it. In any cases such as I have described you can look for death.

Dr. A. R. Baker, Cleveland: Early in my practice as an ophthalmologist I became thoroughly convinced that choked disc, such as we have in brain tumor, was an edema, and among my earliest operations were efforts to remove this pressure by tapping the nerve-sheath. My first operation consisted in simply incising with a cataract knife. I then devised a long curved pointed syringe with the idea of drawing off the fluid. It can be done, and sometimes you will get temporary relief, but the sheath will soon fill up again and the blindness will return. The second operation I always found more difficult than the first, so it was not long until I abandoned it. Then some time later when lumbar puncture became the fashion I thought that at last we had some way of reducing this pressure, and in nearly all my cases I advised this procedure. It too gave temporary relief in many cases, but every now and then a patient would die suddenly, and we gradually abandoned that. So that it has been my practice for many years to trephine. I do not know who devised or named this "the decompression operation." We simply called it trephining to relieve pressure, and I think for twenty years I have been advising it for the relief of pressure, headache and blindness, vomiting, vertigo, and for the purpose of making the patient more comfortable. Until recently I thought every one had been doing that, and I can not but believe that there are many here who have been doing the same thing. When the brilliant work of Horsley came to our notice we began to look for tumors, and I fear, often did more harm than good as only about three or four tumors out of a hundred can be found and removed. But the simple operation of relieving pressure is one that should appeal to all of us as it has in the past.

Dr. J. A. Tenney, Boston: I have always tried everything else before I operated. When I was younger I operated a great deal more than I do now. Fortunately, in these cases I have described, in which there was actually no apparent edema in the nerve-head and we could see nothing with the ophthalmoscope, I found in every case I was able to relieve the patient by mild means, and so it was very satisfactory.

SCISSORS-MAGNET EXTRACTION OF IRON FROM EYEBALL*

[Editor's Note: The article with the above title, by Dr. Edward Jackson, Denver, appeared in The Journal, June 19, before the discussion thereon had been submitted to the speakers for correction. The discussion was therefore omitted at that time and is now presented below.]

ABSTRACT OF DISCUSSION

Dr. W. M. Sweet, Philadelphia: Many cases of injury from bodies are not seen by the oculist until weeks or months after the injury; then it is often impossible to remove the steel, owing to the firm fibrous exudation about it; or even if the foreign body is removed, the disastrous effect of the tugging on the uveal structures can not be estimated. It is probable that a large proportion of the cases in which the steel was successfully removed but enucleation was later required on account of iridocyclitis are traceable to the injury caused by the pull of the magnet on the structures binding the foreign body in its imbedded position.

As I showed in a recent paper, bodies in the vitreous chamber in the neighborhood of the equator or near the ciliary body usually drop into this situation after penetrating the anterior segment of the eye, and therefore do not become imbedded in exudation; and extraction is often successful. In one instance a splinter of steel that had penetrated through the upper limbus was localized at the bottom of the vitreous chamber near the equator, and the steel was removed by the magnet through a scleral incision at the first attempt, after the body had remained in the eye for twenty-one years.

In bodies that are imbedded in the retina and chorioid a week may be sufficient for the formation of an exudation about the metal that will resist the power of any magnet to extract it. If the metal is of large size the magnet may pull it loose, but in small particles; the attempts to remove the metal are futile and the eye is lost. Even a large piece of steel may become firmly bound with lymph in a short time. I have seen a case in which a piece of metal 8 by 7 mm. was localized in the retina and chorioid above and to the nasal side of the disc, and which in one week's time was so surrounded by fibrous material that even the giant magnet could not remove it. Sections of the globe after enucleation proved that the body was imbedded in retina and chorioid alone, and had not penetrated into the sclera, as was suspected when the magnet failed to dislodge it. Since these old injuries must receive treatment, any method that will succeed in removing the steel and save the globe, even though useful vision is not secured, is a distinct gain. I was so impressed with the value of the method suggested by Dr. Jackson of securing these imbedded foreign bodies that I have asked an instrument maker to construct a scissors attachment for the 110-volt hand magnet that I use. I believe that we should have the scissors firmly attached to the magnet, as the loose scissors if not in close contact with the magnet are apt to be jerked out of the wound when the current is turned on, as happened in one instance reported by Dr. Jackson. In this scissors attachment the base of the ordinary tip is hollowed out to receive the rounded end of one scissors blade, the circular portion forming a ball-and-socket joint that permits the blade to be moved in any position. The other blade is jointed with the first, with the joint at some distance from the scissors points, so that there will be only a small amount of separation of the blades in the interior of the globe.

Dr. W. B. Marple, New York: I was glad to hear Dr. Sweet mention this little device of his, because I was going to ask Dr. Jackson if he had not difficulty in controlling the scissors. I understand that he does not turn the current on until the scissors are in the eye. It occurred to me just as Dr. Sweet suggests that there might be a good deal of risk. I know how careful one has to be. Our Hirschberg magnet is so arranged that it can be raised and swung around into any position without difficulty. In one case I carelessly forgot that the table was iron and wondered what was pulling the magnet so when the current was turned on, when it occurred to me it was the iron table. We shifted the patient to a glass-topped table and had no further difficulty. I recall the difficulty of removing some of these bodies even when the magnet is in contact with them. I remember a case some years ago in which the patient had carried the foreign body fourteen years. Dr. Sweet localized it. It was almost against the sclera under the attachment of the inferior rectus. I made an incision of 4 mm. right over the body and tried the Hirschberg magnet, which failed. Then I made a transverse incision with the scissors and again the Hirschberg magnet failed, although one could be quite positive that the tip of the magnet was almost in contact with the foreign body. I had again to lengthen the incisions and then with the tip of the magnet in the opening the foreign body came away with a part of the sac in which it was encapsulated. The traumatism was considerable, and I advised the patient then to have the eye removed because it looked so bad when I was through. He insisted, however, on keeping the eye and has it still, although I thought he was going to have sympathetic ophthalmia. I think if some device like Dr. Jackson's had been used the traumatism would have been much less.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Dr. H. Gifford, Omaha: I think we ought to pay more attention in connection with this idea to the inner-pole magnet. This magnet, as you know, has received little attention in English-speaking countries. The magnet is simply a large series of coils of wire making a large and powerful solenoid. In the center of the coil the head of the patient is placed, the current is turned on and the foreign body, as well as the instrument used inside the ring, is magnetized. I can testify after having used this instrument for several years to the extreme neatness with which we can manipulate a small instrument in the center of this solenoid. You can with the utmost ease go into the vitreous, put the instrument just where you please and if the foreign body is not too firmly attached withdraw it. Some of these points are not any bigger than a discission knife. It seems to me if the scissors were used in connection with the inner-pole magnet we would have nearly an ideal arrangement.

Dr. W. H. Wilder, Chicago: In regard to the scissors suggested by Dr. Sweet, it seems to me that one blade might be made of steel and the other of a non-magnetic material, which might prevent them from closing suddenly when it is not so desired; and the magnetic blade would seize the foreign body just as readily. In this connection I wish to mention a procedure for removing the foreign body after it has been drawn into the anterior chamber with the large magnet, which in a number of cases has proved useful in my experience. It consists in introducing into the anterior chamber the points of a fine iris forceps, or better, the small dressing forceps such as are used in cleansing a cataract wound, and then bringing them into contact with the foreign body. An assistant then brings the magnet into contact with the forceps and a gentle current is turned on. The foreign body is more generally removed in this way and there is less likelihood of the iris being dragged into the corneal wound than when the tip of the magnet is placed in or near the incision. Such a procedure will often be of use, especially when one is not provided with a small hand magnet and a variety of delicate tips.

Dr. E. E. Holt, Portland, Me.: It certainly should be our practice to operate at once in cases of steel in the eye. I remember my first series of cases of this kind reported in the American Ophthalmological Society twenty years ago. It was not the practice to remove steel at that time. The criticism on that paper was that the eye would be destroyed. I have kept up the practice ever since. I have used magnetized instruments as Dr. Wilder has suggested. My experience in the past twenty-five or thirty years has been such that I continue to practice it. I remember at an ophthalmologic meeting about ten years ago a case was brought in and examined by the members of the society and no one recommended removing the foreign body by an operation. It was plainly in sight to the ophthalmoscope. It was allowed to remain and the eye was removed afterward. My experience in removing steel is that the earlier you get at it the more likely you are to save the eye, but I have saved the eye after the steel has been in four to six weeks.

Dr. J. A. Donovan, Butte, Mont.: I prefer an X-shaped incision to the incision Dr. Jackson makes. I think it has several advantages. Recently in all cases in which I am reasonably sure there is steel in the eye I give a hypodermic injection of scopolamin and morphin. It makes it easier both for the patient and for the surgeon. I have not used the scissors-magnet method, yet I have had cases in which I wish I had known of it. We know that the current has a much stronger effect on soft iron than on steel, and as the scissors need not be very hard they might be made of softer material. If a notch were made in the end of the scissors it could be used as forceps if necessary and yet would have all the advantages of scissors.

Dr. R. L. Randolph, Baltimore: As most of us have, I, too, have placed almost implicit confidence in and have been guided by *x*-ray localization. I am sure that all of us have at times marveled at the smallness of the foreign bodies, the accuracy with which they have been revealed and the consequent ease with which they have been removed, and it is only recently that my faith has been shaken. A man who had been blind for nineteen years came to me complaining that for some weeks he had been having peculiar attacks of pain and redness in the eye. The history of the case suggested a foreign body in the eye and I had a colleague make a skiagraph of the eye after the Sweet method. He reported negative findings. The redness and pain persisted and I advised that the eye be taken out, to which he consented. I would not have been surprised if the foreign body had been the size of a pinhead, but it was quite as big as my finger-nail. The object had passed through the eye and the smaller part rested in the vitreous and it was imbedded in the posterior segment of the eye near the nerve. I confess it now makes me feel uncertain in dealing with cases of this kind. The specimen which I have here shows the foreign body to have been about the width of the large blade of an ordinary penknife and in appearance not unlike the end of the latter, having a very sharp edge.

Dr. Edward Jackson, Denver: I can see that the form of scissors suggested by Dr. Sweet may be very serviceable. I think, though, that the difficulties of using the ordinary scissors perhaps appear greater than they really are. It is a thing you can easily try for yourself with the magnet and scissors and a tuft of cotton and some steel; you will be surprised at the ease with which you can use the scissors when in contact with the magnet. I use the broad rounded end of the Johnson magnet just at the joint of the scissors; you will be surprised how little it interferes with their manipulation. Of course you have to remember that you are using force there all the time. I can see that the inner-pole magnet would be peculiarly fitted for this operation, but I have never had an opportunity of using it. With reference to non-magnetic blades in scissors, it occurs to me that possibly one blade magnetic and the other non-magnetic possibly would not draw the foreign body in between the points of the scissors. I have tried to use the point of a Graefe knife in contact with the magnet and failed, and I think perhaps the drawing of the foreign body between the two points of the scissors is essential for success. I can heartily agree with Dr. Holt on the importance of operating at once. Both of my patients were operated on within a week of the time I first saw them, but in one case the accident occurred in Alabama and the other in southern Mexico. I think that probably a notch in the end of the scissors or any device to hold the foreign body would be unnecessary. The thing is to get the body in contact with the magnetic steel. The foreign body is rarely scraped off inside the eye.

The Bed Test in Nervous Dyspepsia.—A. Mathieu relates in the *Gazette Méd. Belge* that few physicians appreciate the importance of the information to be derived from the improvement or lack of improvement in nervous dyspepsia when the patients remain in bed for two or three weeks. Besides the avoidance of fatigue and the reduction of the organic wear and tear, the tendency to ptosis is mechanically combated by this *cure d'horizontalité*, as he calls it, and the results supply the needed clue for treatment. The lack of such temporary repose may annul the benefit of other treatment.

CLINICAL FEATURES OF SO-CALLED ACUTE PELLAGRA

N. P. WALKER, M.D.
MILLEDGEVILLE, GA.

This paper is based on fifty-one cases of pellagra occurring among the colored female insane patients at the Georgia State Sanitarium previous to Jan. 1, 1909.

The first case noted occurred in January, 1906, but was not recognized. It would appear that cases had been seen at this institution previous to that time, but it was not until the articles of Drs. Searcy and Babcock appeared that the nature of the malady was understood.

During the year 1908, 629 insane colored women were treated, of whom 40, or 6.3 per cent., suffered from pellagra. Of 176 patients admitted during the year, 9, or 5.1 per cent., showed symptoms of the disease when admitted.

The inroads of this disease makes it one of the most important with which we have to deal. During the past year, pellagra, as the cause of death among the colored women, ranked second to tuberculosis only. Since it is being more fully recognized, one may safely venture the assertion that large numbers of cases will be reported.

ETIOLOGY

Use of Corn as Food.—Food products of maize form a considerable portion of the daily diet. From April 1, 1908, to Jan. 1, 1909, the corn-meal used at the institution was grown at home. At all other times it was purchased, and, to the best of our knowledge, was made from corn grown in the western states.

In one instance the patient had been suffering from dysentery for six months before symptoms of pellagra appeared. In the case of a second patient, symptoms appeared after she had suffered three months from dysentery. Both patients had been on liquid diet for the entire time and neither had been exposed to sunlight. A severe vaginitis was noted in the second case. Symptoms of pellagra appeared late in the course of a third case. The nature of the dysentery was not determined and autopsies could not be secured. It certainly does not appear that corn was the causative factor in these cases, unless the toxins are retained for long periods of time before their effect becomes apparent.

Sunlight.—In five instances patients had not been out of doors during a period varying from three to eight months previous to the appearance of the malady.

Age.—In our patients this varied from six to seventy-five years.

Season.—Of the 42 cases developing in the institution, 2 began in January, 1 in February, 2 in March, 2 in April, 3 in May, 3 in June, 1 in July, 4 in August, 5 in September, 10 in October, 5 in November, and 4 in December. Perhaps our cases are not sufficient in number to warrant generalization from them, but it would appear that there is a decided tendency for the disease to occur during the fall and winter months instead of in spring.

Color and Sex.—Without definite facts at hand it appears that pellagra is more common among colored than whites and oftener seen among women than men.

SYMPTOMATOLOGY

Inasmuch as it is extremely difficult to obtain reliable information from insane negroes, we can not make any definite statement as to the prodromal symptoms spoken of by older writers, neither can we say what symptoms usually appeared first. In the majority of instances, dermatitis, stomatitis and diarrhea were noted simultaneously. Vomiting occasionally occurs early, and slight elevation of temperature may be noted and indefinite abdominal pains may be complained of.

Dermatitis.—This is almost always symmetrical in position on extremities and frequently so on face and neck. The skin of the dorsal surface of the hands is the most frequent seat of the lesion. The whole dorsal area may be affected and the lesion sometimes extends to the elbows, where it is often well marked. The face, neck and feet not infrequently show the lesion. In two instances inflammation was noted on both breasts and a small area was noted over the umbilicus of one patient.

Contrary to the statement of several recent writers on this subject, involvement of the palmar surfaces of the hands and fingers does occur, as photographs show. Slight involvement of the plantar surface of the foot has also been seen. The dermatitis varies greatly in extent and severity. In the milder cases slight swelling and redness may be followed by desquamation without exposure of raw surfaces. In the more severe cases blebs may form within a few days of the appearance of the initial lesion. These are filled with clear serum, but may easily become infected. When the fluid is evacuated a thin gelatinous substance usually covers the exposed surface; under this material a reddish granular area is to be seen. Blebs have not been seen except on the extremities.

One must remember that more than 50 per cent. of normal adult negroes show thickening and darkening of the skin over the joints of the fingers. This may easily cause confusion. The dermatitis may recur as in chronic cases and has, in the case of one patient, been noted three times within a period of four months. When it does recur it appears very slowly and its real beginning may be difficult to determine. In the late stages comedones sometimes appear on the cheeks adjacent to the nasal folds, on the chin and may extend to the forehead, giving a somewhat characteristic appearance.

Stomatitis.—Stomatitis also varies in extent and severity. There is usually a reddening of the mucous membrane covering the inside of the cheek, the gums, the edges and under surface of the tongue and the floor of the mouth. This is accompanied by an increased flow of saliva. Following the inflammation a dirty whitish pellicle appears. This is most often first seen on the lower gums behind the last molar teeth. It may not extend beyond this position or it may involve any portion or all of the mucous membrane of the mouth. In one instance a small deposit behind the lower molar teeth was followed within twenty-four hours by an involvement of the whole visible mucous membrane of the mouth. Numerous ragged ulcers have been seen on the inner surfaces of the lips and cheeks and on the gums.

Vaginitis.—This occurred in about 12 per cent. of the patients. The inner surfaces of the labia show deposits similar to those seen in the mouth. A deposit within the vagina itself has not been noted, although the mucous membrane in several instances was of a bright red color and a leucorrhea was present.

A condition somewhat similar to that noted in the mouth was seen in the nose of one patient.

Diarrhea.—This has at some time been present in every case. In two or three only was it absent in the beginning. The movements in the majority of cases do not exceed 5 or 6 daily, usually from 3 to 6. In a few cases the number of movements reaches 10 or 12 per day, but as a whole the diarrhea is not severe. Small particles of mucus and some blood are occasionally seen in the stools. In the later stages constipation often replaces diarrhea.

Nervous Symptoms.—These are not constant as would appear from the descriptions of the chronic forms. Many of the cases running an acute course do not show any symptoms of spinal cord lesions. In two patients afflicted with pellagra when admitted the symptoms of involvement of the motor tracts were extremely well marked. In one the clinical picture was that of amyotrophic lateral sclerosis and death was apparently due to bulbar paralysis. In one case only were there symptoms of posterior sclerosis alone. These were confirmed by autopsy.

Just preceding death marked delirium may supervene.

A considerable general mental reduction is present in many cases. The often quoted tendency to suicide by drowning has not been noted.

Of the patients who develop the disease while in the sanitarium a few have recovered. The mental condition of these do not show any material change from their former condition.

Blood.—The blood of one patient presented a typical picture of pernicious anemia: hemoglobin 35 per cent., red cells 862,000, whites 9,400, polynuclear cells 59.4, small mononuclear 32.8, large mononuclear 4.8, eosinophiles 0.4, myelocytes 2.8. In counting 500 white cells, there were noted 34 normoblasts, 15 megaloblasts and 5 free nuclei. The autopsy findings corroborated the clinical picture. Exclusive of this case the blood findings are of some interest in thirteen other cases in which partial or complete examinations were made. Hemoglobin varied from 65 per cent. to 95 per cent., red cells from 2,500,000 to 5,292,000. The white cells were decreased in 2 cases, slightly increased in 4 and within normal limits in 6. In the differential counts no constant findings of interest were noted. Excluding the above-mentioned cases, nucleated reds were found in three of ten cases in which complete counts were made. One of the chief points of interest in this connection is the fact that nucleated red cells may be found comparatively early in the disease and when the hemoglobin is normal or above. A more extended study of the blood may yield some information of value.

MORTALITY

Six patients were removed from the institution before the termination of the disease. Of the remaining 45, 28, or 62 per cent., died; 12, or 26 per cent., have apparently recovered; 5 patients are still under treatment.

Miner's Nystagmus and Traumatism.—Dransart and Famechon (*Arch. gén. de méd.*, December, 1908, No. 12, p. 749). call attention to the influence of traumatism on the development and aggravation of miner's nystagmus: They find that traumatism in general, and especially traumatism of the cranium, aggravates the nystagmus. Slight traumatisms of the eye—contusions, foreign bodies and wounds of the cornea, lesions of the conjunctiva—frequently cause an aggravation of the nystagmus or a transformation of a latent nystagmus into a visible or manifest one, and in a certain number of cases it localizes itself in the injured eye (unilateral nystagmus). They believe that at least 10 per cent. of the coal miners of the north of France suffer from a slight or latent form of nystagmus which renders their labor less productive and the miners themselves more liable to injury.

THE VAGINAL OPERATION FOR PROLAPSE OF THE UTERUS

GENERAL CONSIDERATIONS

LESTER E. FRANKENTHAL, M.D.
CHICAGO

In order to provide grounds for a common understanding of the subject under discussion, I shall make some rather elementary statements.

1. The normal position of the uterus is anteverted.
2. The external os is to be found on a line drawn from the upper border of the symphysis pubis to the lower point of the sacrum (Suppey).
3. The fundus of the uterus, in the woman standing erect, touches a horizontal line drawn across the top of the symphysis.
4. The external os rests on a line drawn across the spines of the ischium.
5. At birth the external os is on a level with the innominate line, and not until puberty is its normal level reached.
6. The entire uterus is freely movable, the only partially fixed part being the cervix.
7. The position of the uterus is maintained: (a) by its ligaments, (b) by its peritoneal covering (a congenitally low insertion of the peritoneum anteriorly and posteriorly to the uterus is etiologically to be considered in this paper), (c) by the intimate blending of this peritoneal covering with the musculature of the uterus, (d) by its vaginal walls, (e) by its vessels, (f) by the working in unison of the atmospheric and intra-abdominal pressure, (g) by its perineal support, and, then (h) (this we consider the most important of all) by its pelvic connective tissue and the pelvic fascia directly connected thereto, (i) by its nerve supply, through the lack of innervation to the musculature.

THE SUPPORT OF THE UTERUS

In order to prove that the nerve supply plays a prominent part in the support of the uterus, we need merely refer to the numerous cases of prolapse of the uterus in cases of spina bifida of the lower lumbar and sacral spine.

If the pelvic floor had as much to do with the support of the uterus (practically all, if we consult the latest articles on that subject—Halban and Tandler), then why is it that so few old women acquire a prolapse in old age? I have not reference to those who go into old age with a partial or complete prolapse; for, surely, in these old women the perineum is atrophic.

I have carefully examined thirty-six inmates of the Old People's Home, ranging in ages from 60 to 90 years, and have found but two cases of prolapse. In one instance the prolapse had been acquired while the patient was quite young, owing probably to a goiter and severe asthmatic attacks. In the other instance, on account of the mental condition of the patient, 90 years old, I could not obtain a history.

To diverge, it may be of interest for me to state that in two of the inmates, whose ages were 81 and 90, respectively, I found a complete senile atresia of the vagina, about one and a half inches from the introitus. In one, 68 years old, I found a fibroid about the size of a man's fist. In seven women, who, among them, had given birth to forty-two children, cystoceles and rectoceles of varying degrees were found. In only two of them was the external os to be found below the spines of the ischium.

From the summary of these thirty-six cases, the atrophic perineum certainly did not cause prolapse of the uterus. I have never seen a prolapse in a complete laceration of the perineum in which the pelvic connective tissue remained intact, so that the retracted musculature could find a hold on the lateral walls of the pelvis, pubes, and so forth, and I failed to find any annotation of the same in the world's literature.

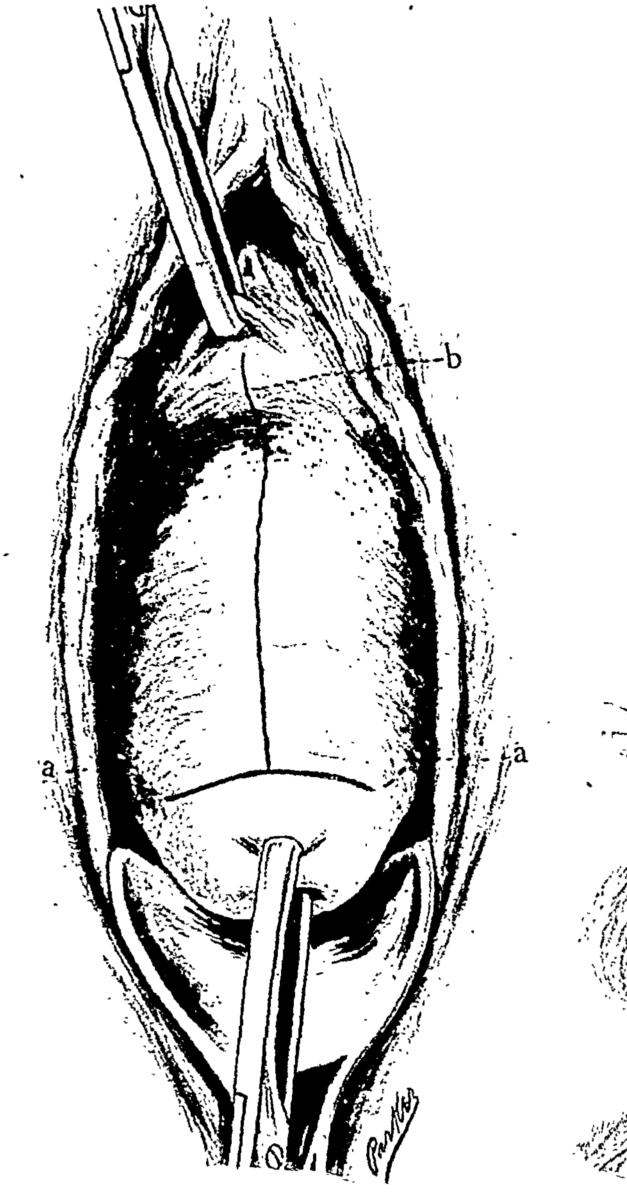

Fig. 1.—Vaginal operation for prolapse of uterus. Step 1 and part of Step 2. (a) straight or U-shaped incision; (b) longitudinal incision.

Here, certainly, the perineal body can no longer give any support to the vaginal walls, and they, in turn, can give none to the uterus. When we realize that by far the most frequent cause of the prolapse is labor, instrumental labor, too rapid instrumental labor, too early bearing down during labor, labor in which there is a disproportion between the passage and the passenger, labor in which there need be no injury apparent to the musculature, in which we see the vaginal walls pushed and dragged down ahead of the presenting part, and in which, during delivery, we fear that there is great danger of the pelvic connective tissue being torn from its lateral moorings. When we see prolapse follow in these cases, we can not doubt but what the connective tissue has much to do—yes, most to do—with the support of the uterus.

Goetz cites 67 per cent. of prolapse in difficult labor; 7.5 per cent. in ascites, tumors, pressure from above, and I have added to etiology, stones in bladder (Michael Reese case); 0.8 per cent. in traumatic cases, falls, and so forth; 24 per cent. in mild cases, including the malformed and infantile cases.

Again, we have all experienced in our gynecologic examinations and operations how firmly fixed at its level, though movable backward, forward and sideward, a uterus becomes; practically unapproachable vaginally, since it can not be pulled down during an operation; and then, when we open the abdomen, we find but a few adhesions, and at the time when they become established there existed the old-fashioned connective-tissue inflammation, "cellulitis." It is the scars under that peritoneum that fix that uterus. This again goes to prove how much the connective tissue has to do with the support of the uterus.

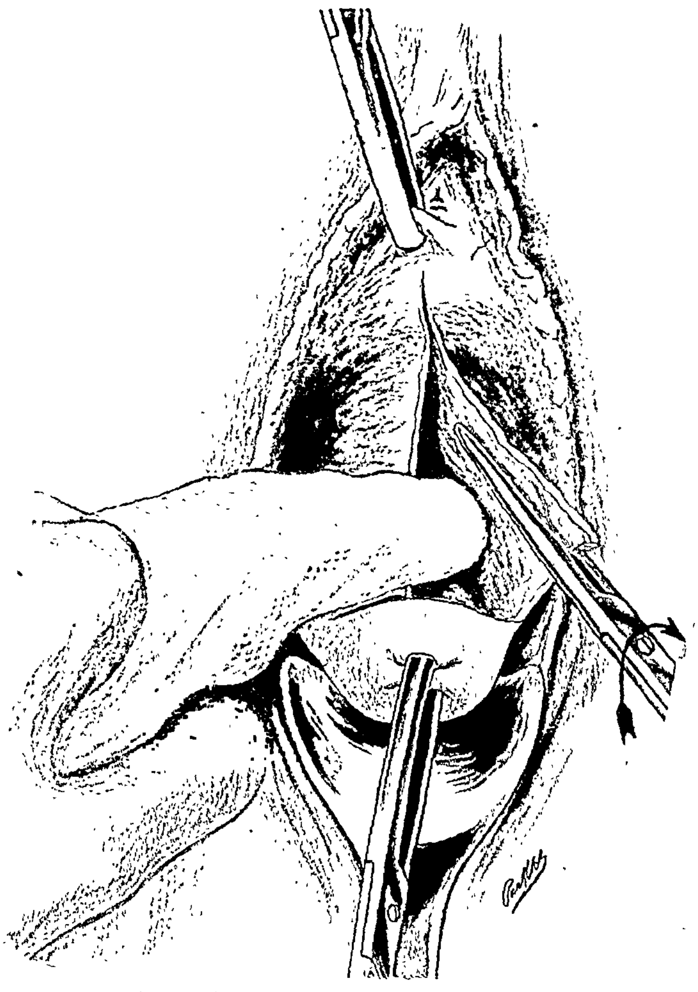

Fig. 2.—Step 2; loosening anterior wall from bladder.

RESULTS OF PROLAPSE

Recently I read somewhere that eroded surfaces on the cervix of a prolapsed uterus were primarily cracks or fissures in the mucosa from the weight of the uterus, and I believe this contention to be correct.

If an anteverted uterus prolapses, the posterior vaginal wall prolapses first. Since this, however, is rare, and since prolapses occur more frequently in retroflexed uteri, the anterior wall prolapses first more frequently. This will be followed by the bladder, the uterus and the posterior vaginal walls, in the order named.

Kolischer says vesical displacements vary in degree from slight to total, from cystocele to complete prolapse. He cites the case in which a cystoscopic examination showed a glowing globe in the vagina.

It is interesting to study Halban's photographs and note the degrees of involvement of the bladder and the peritoneum. The distal portion of the urethra is sometimes involved, though rarely. The proximal end proportionate to the involvement of the bladder.

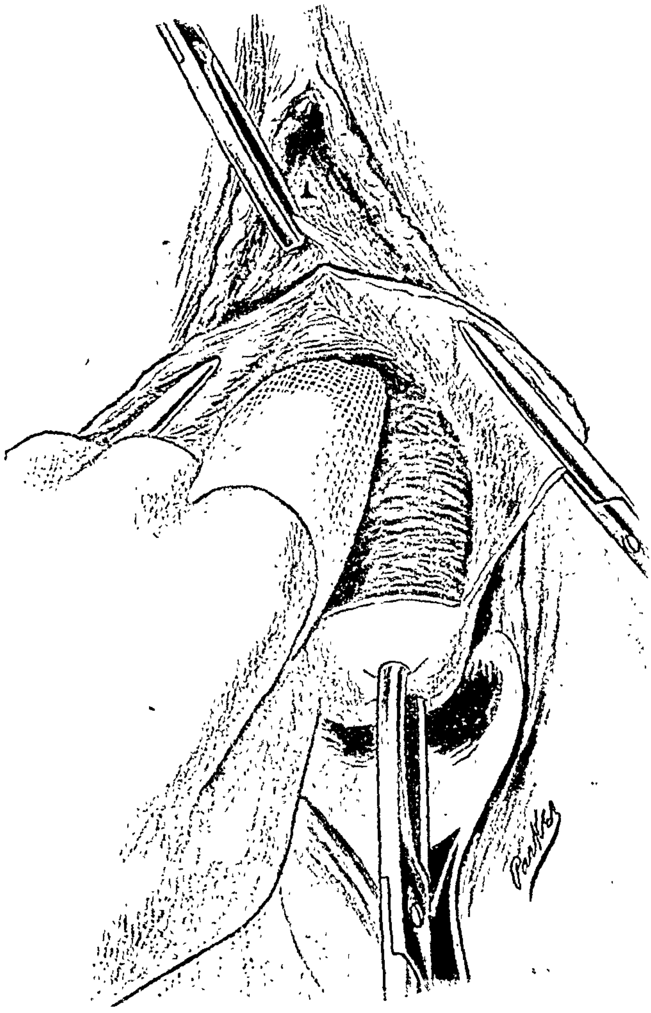

Fig. 3.—Step 3; bladder being pushed up to peritoneal reduplication by finger covered with gauze.

Halban states that he found the pelvic portions of the ureter dilated in 66 per cent. of the cases.

In these cases of complete prolapse with rectocele, it is found to be of extreme importance to establish the exact relationship of the rectum to the posterior vaginal wall and peritoneum (Douglas). This is done the day before the operation. We know that the rectum in these cases first loses its perineal curve, then the rectocele forms, and if feces collect in the same it pouches forward into the vaginal canal, and in severe cases out through the vulvar orifice.

Bearing in mind that the arbor vitæ, the end of the cervix and beginning of the uterine body, the entrance of the uterine artery, the attachments of the peritoneum and the microscopic difference between the cervical and uterine mucosa establish the site of the internal os as accurately as this can be done, it is interesting to note that not only the cervix, as is commonly believed, but likewise the entire uterine body frequently undergoes an elongation.

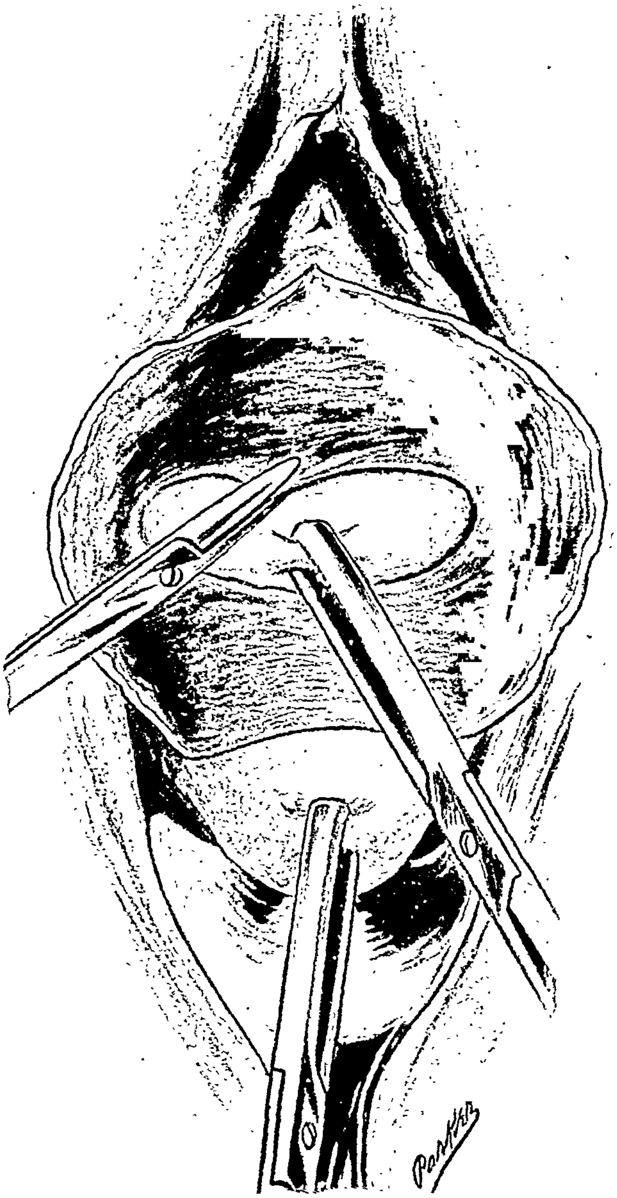

Fig. 4.—Step 4; peritoneum opened; uterus about to be delivered; anterior fold of peritoneum in three-inch clamp.

Halban noticed difference of from 3.75 to 8 cm. from the internal os to the fundus.

In the event of an indication to do an abdominal operation for the relief of prolapse, it is worth while to take into consideration the original suggestion made by Dr. E. E. Montgomery, to add to whatever operation was done the obliteration of the pouch of Douglas, when it is usually low, the result of this procedure being to bring it on a higher plane.

A deep, infantile, low anterior and posterior pouch of Douglas is frequently observed when the abdomen has been opened for the relief of some other pathologic conditions than prolapse.

HISTORY OF THE VAGINAL OPERATION

To W. A. Freund no doubt belongs the credit of having first cited and performed the vaginal operation for the relief of prolapse of the uterus. This operation has been more or less modified by all of us who have had a fairly large experience with the same to suit our own indications and intentions.

Schultze, Mackenrodt, Peter Miller, Frank, Duhrssen, Byford, Montgomery, Berry, Hart and Bellini as early as 1835 all deserve mention for pioneer work, and Kolischer for his cystoscopic descriptions, which, by the way, are the only ones I could find in the literature.

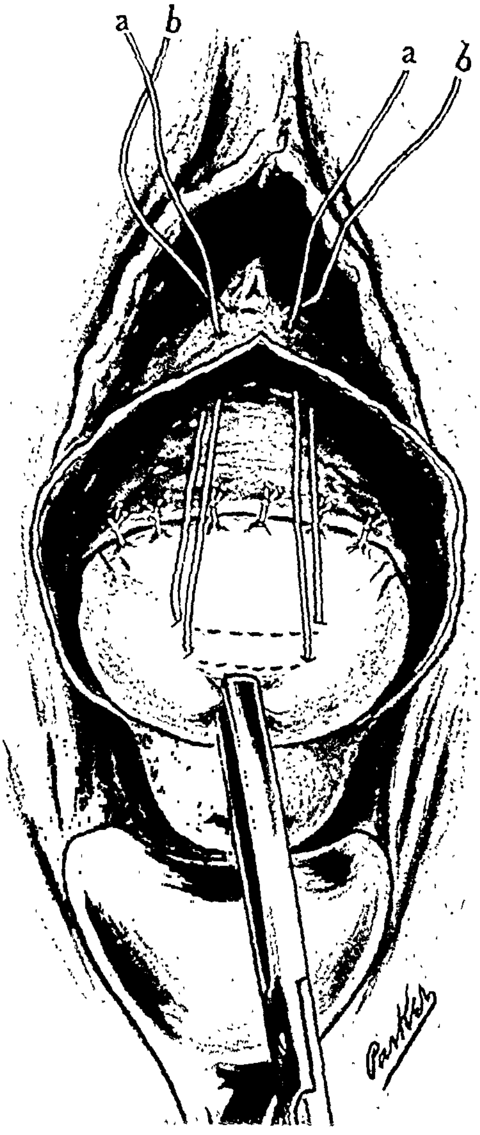

Fig. 5.—Twenty-day chromicized catgut stitches through posterior wall of uterus and vaginal mucosa and connective tissue.

Now, in order that the original Wertheim operation, published in April, 1899, may be better understood, I will briefly summarize the three steps of the operation as originally performed and described by Wertheim:

1. Transverse vaginal cut above cervix; open into anterior pouch of Douglas; deliver uterus; sew angles of cut up to sides of cervix.
2. Denude the anterior vaginal wall from external urethral orifice to within 1.5 cm. of the transverse cut.
3. Denude the posterior wall of the uterus by scraping and then pull it out so far that the uterus can be attached to the freshened vaginal borders all around.

Wertheim suggests in the same report that one might loosen up the vaginal wall sufficiently to cover the entire uterus.

One of the main points in the Wertheim operation is the fact that his sagittal and transverse vaginal cuts do not meet; that the neck remains covered with intact vaginal mucosa. He believes that he thereby increases the stretching of the uterine body. So far as I know, none of us have followed his method in this particular.

Dr. Watkins performed his first operation in January, 1898, but did not publish his method until November, 1899. It was as follows:

> The bladder was separated from the uterus by blunt dissection and the peritoneal cavity opened in front of the uterus. The anterior wall of the uterus was grasped by bullet forceps and the organ anteverted. About two inches of the upper portion of the anterior vaginal wall was excised. The anterior vaginal wall was now sutured to the upper border of the broad ligaments lateral to the uterus, and to the fundus of the uterus with silkworm-gut sutures. The posterior vaginal wall was incised longitudinally in the medium line from the cervix downward about one inch so as to allow the cervix to be displaced upward and backward. The wound in front of the cervix was now closed by silkworm-gut sutures inserted transversely; that is, parallel to the line of incision anterior to the cervix. One silkworm-gut suture secured the cervix in the angle of the incision in the posterior vaginal wall. Emmet's perineorrhaphy was made to correct the prolapse and displacement of the posterior vaginal wall.

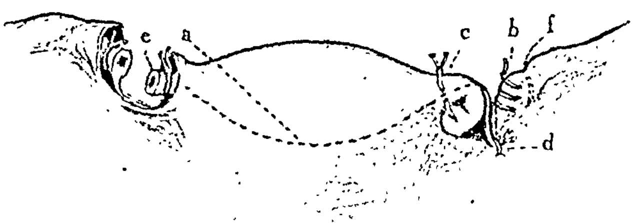

Fig. 6.—Details of Step 7; (a) curved dotted line represents peritoneum attached to posterior wall of uterus; (b) peritoneum covering stump stitched in place; (c) proximal end of tube curled on itself and fixed in that position by stitches; (d) peritoneal screen drawn in between severed parts of tube; (e) proximal end of stump ligated; (f) distal stump of tube ligated, then covered by its own peritoneum, and finally by vesical peritoneum, making it intraperitoneal.

REVIEW OF EXPERIENCES WITH AUTHOR'S METHOD

My first operation was done in the early part of 1900, by the method subsequently to be described. The operation (Record 18602, March, 1902) is described by Dr. A. Merrill Miller, my resident physician, as follows:

> An incision and denudation for an anterior colporrhaphy was done before incising of the peritoneum and eversion of the fundus uteri. The left tube was denuded of peritoneum for about 2 cm., removed, ends tied with silk, and the ends overlocked with catgut sutures. Similar treatment was accorded that of the right side. With the fundus strongly anteverted, silkworm gut was used as anchor stitches, three being put in. A running catgut united the anterior mucous membrane and assisted in holding the uterus anteriorly. A small perineal tear was repaired. The vagina was lightly tamponed with iodoform gauze. The result of the operation was good.

My patients ranged in age from eighteen to seventy-two years; from nulliparæ to women who have given birth to twelve children; they included one virgin.

Seven operations were done without anesthesia, in old women, before the use of nitrous oxid gas became so widely recognized as a safe anesthetic during long operations.

Many of the records of my cases have been lost. The greater number of my operations were performed during my service at Michael Reese and St. Luke Hospitals, both of which have moved into new buildings. During the removal, unfortunately, some of the records were misplaced. The greater number of the patients, however, are still under observation; and I have in my possession nearly seventy records of operations done at one hospital. That leaves unrecorded all the operations performed during my service at another hospital during the last eight years and in private, which would bring the number easily above ninety.

Judgment must be used in selecting the cases. For instance, in two cases the prolapse returned because the uterus—in an elderly woman—was exceedingly small, and I could not get sufficient support from the atrophic, narrow uterus to carry the bladder. In another case, that of a young woman, there was a return, due, I believe, to an error in technic. I did not fix the fundus sufficiently close to the urethra, or sew the vesical peritoneum sufficiently low on the posterior wall of the uterus, and fundus and bladder came down together.

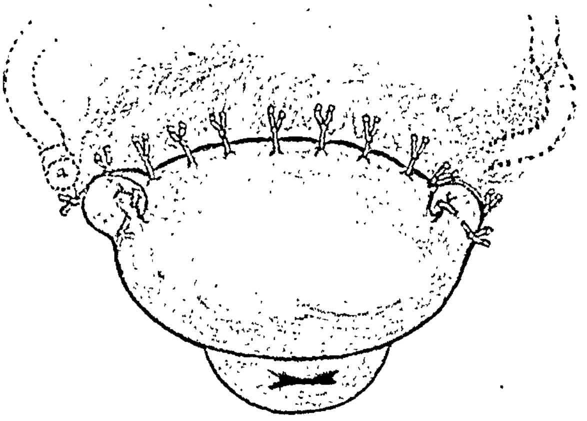

Fig. 7.—Steps 6 and 7; peritoneum attached to posterior wall of uterus; proximal ends of tubes curled on themselves and stitched in place. Dotted lines represent distal and intraperitoneal parts of tubes.

I see my patients frequently at Michael Reese or St. Luke's hospitals, at the dispensary, and in private practice, for one reason or another, and, so far as I know, these three cases are the only returns. Deaths, I have none to report. I can sincerely recommend the operation.

Let me mention one more complication that may follow the operation. In my earliest cases, before I learned to loosen the bladder well from its lateral attachments to the parametrium, I had trouble from that viscus, and in one case a bad cystitis.

My results have been eminently satisfactory. I have intentionally abstained from reporting this operative work until now, so that a sufficiently long time might elapse to justify a final opinion. The object of this paper is to recommend the operation soon to be described, but by no means to condemn any others that are being practiced, except extirpation of the uterus for prolapse pure and simple.

AUTHOR'S OPERATION IN DETAIL

I will now describe the operation in detail, as done by myself for more than eight years, since 1900.

If there is much edema and congestion I keep the patient in bed, with the foot of the bed elevated, for a few days before the operation. If there is an endometritis present, or a lacerated cervix, or an elongated cervix, this is surgically dealt with before beginning the operation proper.

1. If the uterus is very large, a transverse U-shaped incision is made; if not very large, a straight incision, across the anterior surface of the cervix.

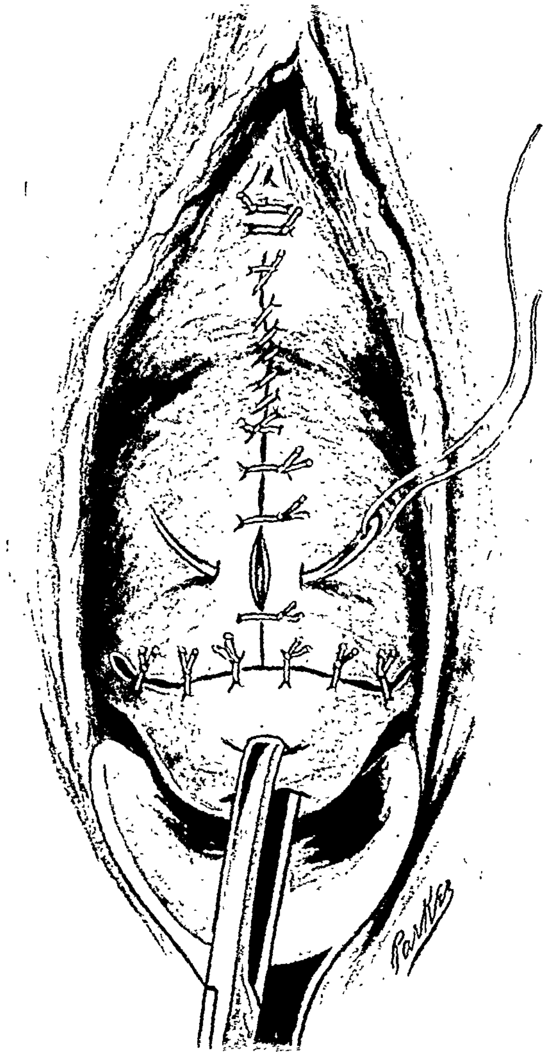

Fig. 8.—Steps 10 and 11; closing of transverse cut; closing of longitudinal cut with running and interrupted stitches.

2. I at once connect this incision with one that starts about 1.5 cm. from the external urinary meatus, to meet the transverse one sagittally. I now prefer to loosen the anterior vaginal wall from the bladder before loosening the bladder from the uterus, believing it to be more easily accomplished while the bladder is still firmly attached. I now check all bleeding, ligating where necessary with 00 chromic catgut.

3. I loosen the bladder up to the peritoneal reduplication. This, in cases of prolapse, is sometimes very difficult, because (a) there may be a congenitally low insertion of the peritoneum, and while I am hunting for the peritoneum at the tip of my finger it is being under-

mined and is riding on the top of the finger which is doing the separation; (b) the anterior pouch of Douglas may have become entirely obliterated through adhesions formed secondarily, after the prolapse is in progress (fatal cases are reported from attempts at replacement of this variety). A male urethral sound, as large as the meatus will permit, passed into the bladder is of great assistance here, and likewise separating the bladder laterally first, will bring one into the correct layers for median separation. Again, all hemorrhage must be checked, the cervical artery being frequently torn. All this time the peritoneal cavity has not been invaded. Now, I separate the lateral attachments of the bladder from the parametrium, for unless this is done the bladder will be held down laterally, while at its middle it will ride on the posterior wall of the everted uterus, resembling a letter U turned upside down. Cystitis due to retention in these pockets will follow. Thus, in one of my earliest cases, I was compelled to do a secondary operation (St. Luke's case), which relieved the condition.

4. I now open the peritoneum, introduce a speculum anteriorly, and push the bladder up against the symphysis and out of the way. Before delivering the uterus, however, I catch the anterior fold of the peritoneum in a three-inch clamp, since it is at times exceedingly difficult to find the peritoneum after the delivery of the uterus through the opening made in the peritoneum. Especially is this true if the uterus is bulky and the introitus of the vagina narrow.

5. I deliver the uterus.

6. I at once sew the anterior peritoneum held in the three-inch clamp to the *posterior wall of the uterus* with a running catgut stitch, as low as possible, near the internal os, unless I wish to ligate the tubes.

It will be noted that the peritoneal cavity does not remain open for more than a few seconds; besides, no blood and no raw surfaces come in contact with the peritoneal cavity. And, besides, this attachment of the peritoneum serves to hold the uterus in the exaggerated anteflexed position. If, however, the patient is still in the child-bearing period, I do not sew the peritoneum posteriorly quite as low as in the climacteric cases, since we need the peritoneum later on to assist in the perfect separation of the two cut ends of the tubes.

7. I then make a circular cut through the peritoneum of the tubes. About 1.5 cm. from the cornu of the uterus strip the peritoneum back both ways, ligate the tube twice with fine silk, cut out a piece of the tube between the two ligatures, and then draw the peritoneum back over the raw stumps, sewing it up with fine chromic catgut. Then, curling the proximal stump under itself, I sew it once more in that position.

8. I now lead the peritoneum in between the two cut surfaces of the tube and fix it in the gap with one or two catgut stitches. This, technically, is not very easy, but quite possible, and I consider it very essential for many reasons. It makes all of the operation extraperitoneal excepting the distal part of the tube, which is intraperitoneal, though well covered with peritoneum. (I call it a peritoneal screen). And then pregnancy is thereby absolutely prevented (Ries).

If the uterus is very large, a strip may be cut out of it, and if it contains fibroids they may be enucleated.

9. I fix the uterus as close as I possibly dare to the urethra against the pubic bones. I use twenty-day chromicized catgut for this purpose, beginning at the upper end of the vaginal incision, going through the vaginal mucosa to the side of the urethra, then the connective tissue, through the posterior wall of the uterus, and out again on the opposite side of the vaginal mucosa. Two such stitches are placed and closed at once.

10. I now sew up the original transverse vaginal cut.

11. If there is redundant vaginal mucous membrane, more than I need to cover the uterus, I cut this away and close the anterior vaginal wall by short running and interrupted stitches, after having replaced the cervix back into the vagina in the hollow of the sacrum.

12. Last, I do as high a colpoperineorrhaphy as the sexual life of the patient will permit, being assisted in this by the knowledge of the exact relationship of the rectum to the vaginal and posterior pouch of Douglas by the examination made the day before the operation. The vagina is cleansed, packed with vioform gauze to stop all oozing, the bladder emptied and the patient placed in bed.

It takes me about one hour to do the operation, without ligation of the tubes; about one hour and a quarter in cases in which sterilization is indicated.

I let my patients rise to urinate and let them out of bed on the third day (Ries), unless there are some particular reasons for keeping them confined.

SUMMARY

1. The two essential features in this operation are: (a) the tamponing of the vaginal outlet and the support of the bladder by the artificially fixed uterus; (b) the repair of the perineal body, vagina and muscles and the narrowing of the vagina, which sustains the atmospheric pressure, while the intra-abdominal pressure is brought to bear from the direction of the spine and assists in maintaining the fixed uterus in position.

2. Operative cases must be divided into (a) the child-bearing, (b) the non-child-bearing, (c) tumor cases, and they must be dealt with accordingly.

3. It is necessary to differentiate between mere hypertrophic elongation of the uterus and prolapse of the vagina, on the one hand, and simple prolapse of the uterus, on the other. For instance, the fundus might be at its proper height; the external os might be, however, away below the spines of the ischium.

4. To Wilhelm Alexander Freund belongs the credit of first having performed the operation in its most essential features; all subsequent operations done abroad and at home are either valuable additions to or mere modifications of Freund's operation.

5. Pregnancy is the only serious contraindication to the operation other than those mentioned.

6. The operation has its limitations, as described in this paper.

7. *For cystocele I know of no better operation.*

8. For prolapse of the uterus it is the most serviceable procedure I have employed in the last twenty years.

9. The pelvic connective tissue is the essential factor in the maintenance of the proper elevation of the uterus in conjunction with the other *structures referred to.*

10. The pelvic floor does not deserve the credit of being the mainstay of the uterus.

11. Complications, such as tumors of the adnexa and uterus, can be dealt with through the same peritoneal incision. Even posterior vaginal drainage could be employed if deemed necessary.

12. The peritoneal cavity (in uncomplicated cases) does not remain open for more than a few seconds;

therefore the dangers of shock, infection, intestinal adhesions, intra-abdominal hemorrhage and the loss of sponges, instruments, etc., in the abdominal cavity are out of the question.

13. Sexual life is absolutely satisfactory.

14. Menstrual complications have never been observed following the operation.

15. The urethra loses its S shape and becomes elongated, but neither incontinence nor retention have followed the operation since I have learned how to avoid them.

16. Pregnancy must not be allowed to occur after the operation just described, so that every possible conservative surgical device must be insisted on to prevent the same.

17. In old women the operation can be done with very little pain without anesthesia. The incision into the peritoneum and later on the skin incision in the perineum are the only painful parts of the operation. The latter could be done under local infiltration anesthesia.

18. All anatomic parts touched during the operation remain extraperitoneal, except the stump of the distal part of the tube, and it is carefully covered with peritoneum.

19. There ought to be no fatalities, barring surgical accident.

20. The permanent results of the operation after eight years' experience are as perfect as after the best known surgical methods of treating any hernia in any other part of the body, two-thirds of 1 per cent. of relapses being my results in nearly a hundred cases.

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THE PROPHYLAXIS OF INTERSTITIAL KERATITIS*

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OMAHA

Considering the great interest to the oculist of interstitial keratitis, the question of its prophylaxis has received very shabby treatment. While it may be discussed in some of the numerous works that I have not seen, I have found no mention of it in any of the dozen English, German, and French text-books and handbooks that I have consulted. The nearest approach to a discussion of the subject that I have seen is in a valuable paper by C. S. Bull, in which the conclusions of Fournier as to the prophylaxis of hereditary syphilis in general are quoted. And yet the subject is one which should receive careful consideration, by the oculist and syphilologist as well as by the general physician.

By interstitial keratitis, in this paper, I refer only to the typical form, which occurs almost always between the ages of three and sixteen years, and almost never after the twenty-fifth year. The more I see of this disease the more convinced I become that Hutchinson is right in attributing practically all of it to inherited syphilis. I know that Panas and Fournier place the ratio at only about 41 per cent. I know also that this disease is caused by tuberculosis more often than was formerly supposed; also that Sedan[2] asserts that in Algiers it is more often caused by malaria than by syphilis; also that Neal[3] has frequently seen it in China apparently as a result of severe diarrhea; but, on the other hand, Mauthner and Silex find the ratio of syphilitics to be 80 per cent. and 83 per cent. respectively; and, in a recent careful study of the subject, Stephenson[4] of London finds a ratio of 69.3 per cent. In the agricultural region in which I practice, where tuberculosis in children is relatively rare and the average nutrition rather high, I find other well-marked signs or histories of inherited syphilis in approximately 90 per cent. of my cases of interstitial keratitis;[5] and when we consider how often it is impossible to get a history in direct infection, I believe it is safe, in the absence of other obvious causes, to make a tentative diagnosis of syphilis in all cases of interstitial keratitis in patients between the ages of two and twenty-five. This, of course, does not mean that syphilis is unusually common in this region, but simply that the other causes of impaired nutrition are relatively inactive. For myself, then, the problem of the prophylaxis of interstitial keratitis resolves itself, for practical purposes, into the prevention and cure of syphilis, particularly of the hereditary form—a field so wide that only a few of its features can be treated here. With the prevention of syphilis in general, with the exclusion of syphilitics from matrimony, with the treatment of the parents, this paper need not concern itself. These points are amply considered in general works. Nor can I attempt to discuss any large part of the diagnosis of hereditary syphilis. I shall merely lay stress on certain peculiarities of the teeth as aids in diagnosis, on the treatment of the disease when it has broken out in one eye and on the prophylactic management of children marked with the disease but without any active manifestations of it.

To take up the last-mentioned phase of the question: I think it is highly probable that if all children between the ages of three and sixteen could be examined for the more obvious signs of inherited syphilis, and if those showing such signs could receive a long-continued course of specific treatment, controlled if possible by the serum diagnosis test, the number of cases of interstitial keratitis and of syphilitic deafness could be greatly reduced. Such examinations should be conducted by the physician in all families in which any member of the family has a history or symptoms which arouse a suspicion of syphilis. In public institutions all children should, on entrance, be inspected with this point in view, and when positive signs are found the appropriate treatment should be carried out, even if the child is otherwise apparently healthy. This recommendation as to treatment may need qualification if it turns out that the serum diagnosis is reliable in inherited syphilis. If this proves to be the case the treatment may perhaps be safely omitted in those showing repeatedly a negative result of the serum test; but even then the latter would have to be repeated at intervals of several years.

THE TEETH AS AIDS IN DIAGNOSIS

In the diagnosis of inherited syphilis the ordinary signs are well enough known. An excellent description of these and of many less common signs is given by

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Med. Rev., April 4, 1908.

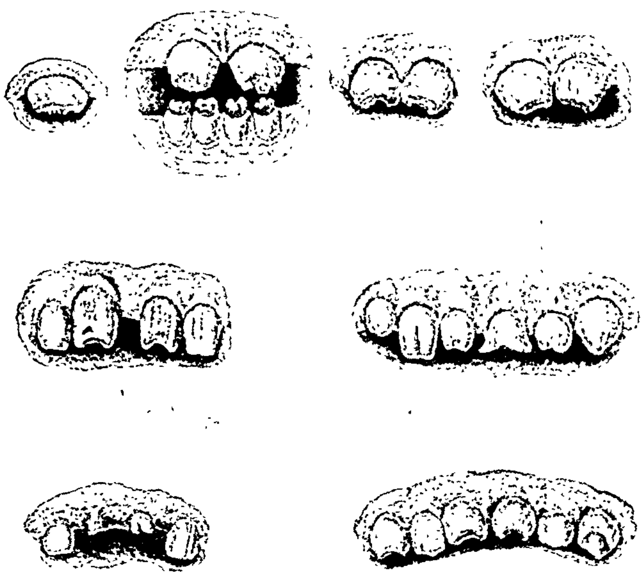
[2] Abstr. in Arch. f. Augenh., 1888, 4, p. 443.

[3] Ann. Ophth., April, 1908, p. 369.

[4] Reprint from Med. Press and Circular, Dec. 25, 1907.

[5] In this estimate I exclude traumatic insterstitial keratitis (known in one of its forms as disciform keratitis), as well as certain one-sided forms of the disease which occur in adult life.

Fournier.[6] I merely wish, in this connection, to emphasize the importance of certain dental peculiarities. The old well-worn Hutchinson incisor is often scandalously misrepresented in otherwise excellent text-books. To give a fair idea of the Hutchinson teeth no one picture can suffice. To illustrate this I reproduce some of the figures (Fig. 1-10) from Hutchinson's original papers.[7] These central permanent upper incisors, on their first appearance, show instead of a notch, a central irregular lobe, as in Fig. 2, which generally wears away soon but which sometimes persists for several years. Later on the notch itself is obliterated by the rapid wearing away to which such teeth are subject. Hutchinson says that the notch is never seen after the age of twenty-five or thirty, but I can not recall a case in which it could be seen well after the age of fifteen. When the notch is gone the character of the tooth can still be recognized in many cases by the fact that the lateral lines after bulging slightly, half-way between the gum and the edge of the tooth, converge slightly till they meet the cutting edge. This bulging of the lateral lines I consider the most permanent feature of the Hutchinson tooth. With regard to the milk teeth, Hutchinson, in his second paper, made some important observations which have practically passed into oblivion; at least I have not seen them mentioned by anyone else. One of these refers to the condition shown in Figure 9, in which the incisors are small and discolored while the canines are healthy-looking. This is a frequent condition in syphilitic children of the age subject to this condition. Figures 10 and 11 show another peculiarity of the milk canines on which Hutchinson lays great stress, and which I have seen a number of times. A central discolored blunt peg projects from and is separated by a shallow groove from a base or collar of normal-looking tooth tissue. If we imagine the same sort of defect occurring in a molar tooth we shall have a defect on which great stress has been laid by Darier, although it was, according to Suker, first described by the elder Fournier. Darier[8] describes these syphilitic first permanent molars as having the summit formed by four tuberosities or tubercles of a yellowish color surrounded by a groove separating them from the whiter enamel-covered body of the tooth, which bulges out on all sides beyond the tuberculated crown. These tubercles soon wear down or become carious so that unless seen in early life one finds simply a carious crown (or, as Edmond Fournier[9] says, if caries does not set in, such teeth later on present a characteristic flat summit devoid of the normal cusps). Figure 12 shows the cast of such a molar from one of my own patients. Figure 13 is a reproduction of the cut accompanying Darier's paper. It shows, instead of four tubercles, which he describes, a central irregularly crenated mass, a form also described by Fournier.



Figs. 1-8. "Hutchinson" teeth; lobed and notched incisors.

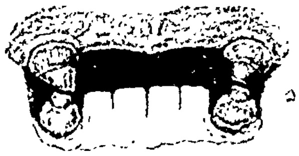


Fig. 9.—Small, discolored incisors with healthy canines.
Fig. 10.—Milk canines in which a discolored blunt peg projects from a base of normal-looking tooth tissue.

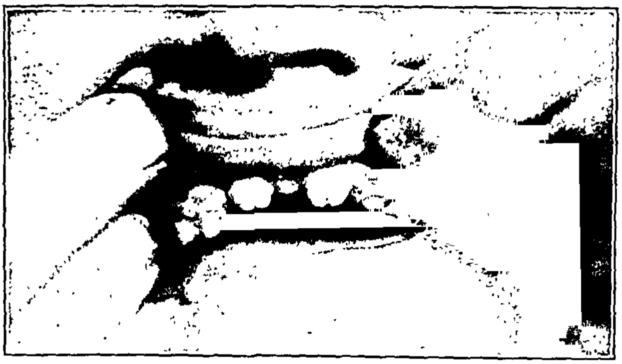


Fig. 11.—Girl, aged 8 years, subject of interstitial keratitis. Note characteristic permanent incisors and equally characteristic temporary canines. This girl also has well-marked Fournier molars.

I consider these Fournier molars and the peg-shaped milk canine of Hutchinson to be fully as characteristic of syphilis as the Hutchinson incisor, and their recognition is of the greatest importance, since they often can be seen either together or separately at an age when the permanent incisors are not to be seen. The only mention of the tuberculated first molar that I have seen outside the writings of Fournier and Darier is in Suker's paper.[10] Another form of syphilitic tooth on which Darier lays stress is the tuberculated permanent canine shown at the right of Figure 8 and in Figure 14. Hutchinson also mentioned this form but did not consider it so characteristic of syphilis as did Darier. I have only seen a few examples of it, but they have all been in patients with other well-marked signs of syphilis.

There is one other form of first permanent molar which I have observed in children with interstitial keratitis and other signs of congenital syphilis, and which I have not seen mentioned by any author. This is what I call the sloped molar, shown in Figure 15. In this form the base of the tooth as it emerges from the gums is much wider than the crown, the cusps being fairly well formed, with little or no tendency to decay. I have seen it only half a dozen times but in all these cases it was of some importance, as the other teeth showed nothing decidedly wrong. It is probably due to the same influences of malnutrition which when acting more decidedly produce the Fournier molar.

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[6] Fournier, Edmond: L'hérédo-syphilis tardive, Paris, Masson & Cie.

[7] Tr., London Path. Soc., ix and x.

[8] Bull. et mém. Soc. franç. d'opht., 1903, p. 216.

[9] L'hérédo-syphilis tardive, p. 100.

[10] Reprint from Medicine, September, 1904.

TREATMENT

As to the prevention of the disease in the second eye, after it has once appeared in one eye, the sentiment appears to be universal that treatment has but little influence in this respect; and for many years, while under the influence of the idea that interstitial keratitis was, at most, a [illegible] nifestation of malnutrition, I used the [illegible] with moderation only, and invariably obtained negative results in the attempt to prevent the affection of the second eye; in fact, the immediate effects of antisyphilitic remedies were so slight that I placed little reliance on their use; but since the discovery of the spirochete, the evidence that the disease is due to an active invasion of this germ has become so overwhelming that the necessity for radical specific treatment is patent.

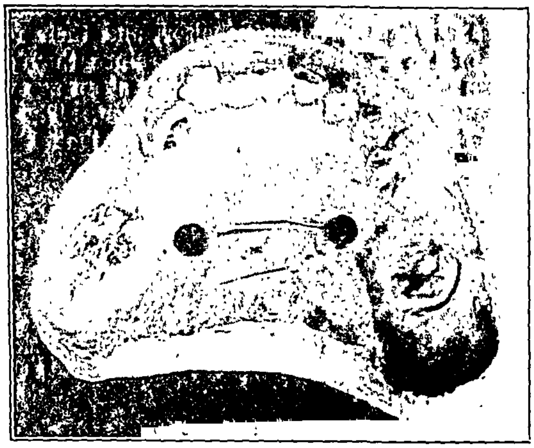

Fig. 12.—From 6-year-old child with interstitial keratitis. First permanent molar at the right is of the Fournier or Darier type.

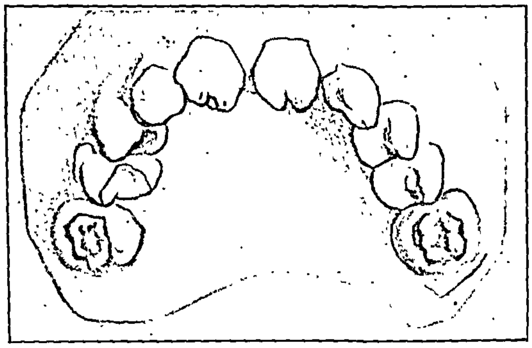

Fig. 13.—Reproduction from Darier's paper showing characteristic permanent molars with central discolored mass crenated, instead of tuberculated.

For the last three years I have treated interstitial keratitis with the same vigorous course of inunctions which I should use in an ordinary syphilitic iritis, having a piece of the mercurial ointment about the size of the patient's thumb (that is, for a man of 150 pounds weight, about 275 grains of the ointment) rubbed in for at least half an hour every day for a week, unless the gums or teeth get sore before that time is up. This course is repeated after a week's rest and then for one week out of every three for the next two to four months, according to the severity of the case; after that the period between the courses is lengthened to from four to six weeks. This is kept up for a year, and for the second year the course is taken for one week out of every two months. All through the active course of the disease atropin and hot applications are used vigorously, and enough salicylate of sodium is given to control the severity of the symptoms of congestion and photophobia. For a full-grown patient from 90 to 150 grains a day for a few days is generally sufficient to break the force of the inflammation, and after this, 90 grains a day on three or four days in the week is generally sufficient. After the congestion has been entirely absent for three weeks, the atropin and salicylate are discontinued and not used again unless the congestion reoccurs. In the interims between the courses of mercury I have used arsenic and iodids in moderation. I have a decided impression that I have been obtaining better results since adding the arsenic to the treatment of this disease, but whether it is best to give it in the form of injections of atoxyl, or some other of the newer preparations, or by the mouth in Fowler's solution, I am not prepared to say Since adopting this line of treatment I am certain that my general results have been decidedly better than they formerly were, and I have seen three typical cases in which the disease has failed to appear in the second eye during periods varying from one to three years. These may be mere coincidences, and I know what long periods are sometimes reported as occurring between

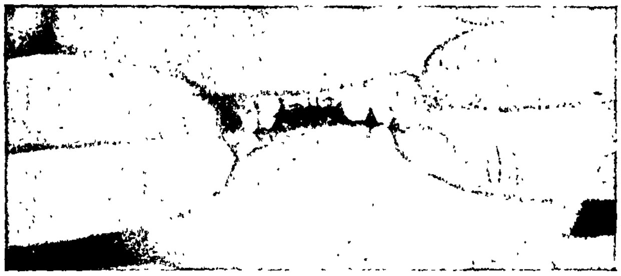

Fig. 14.—Girl of 16 years with interstitial keratitis. Hutchinson central incisors unusually small. Note also, at the right, permanent tuberculated canine.

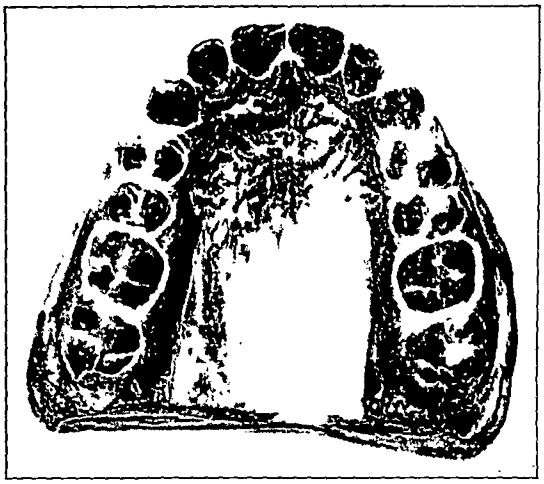

Fig. 15.—"Sloped" permanent molars in boy of 14 years, of robust build and good previous health until puberty, when he developed characteristic bursitis of right knee joint, interstitial keratitis, and necrosis of hard palate. Younger sister, a year later, had similar train of symptoms; teeth otherwise normal.

the infections of the two eyes, but the fact that in twenty-three years of eye practice I have never, before, seen an attack in the second eye postponed longer than three or four months, gives me a decidedly hopeful feeling as to the possibility of preventing the disease in the second eye when the first eye is seen early in the attack.

SUMMARY

To sum up and repeat, I believe that the following points may be made with reference to the prophylaxis of interstitial keratitis. First, in the text-books on ophthalmology and syphilis the diagnosis of hereditary syphilis should receive much more attention than it usually does; and, instead of the single faulty cut so commonly used, at least half a dozen figures should be presented, to show not only the Hutchinson incisors, but the other more important forms of syphilitic teeth. Second, all children in public institutions and in private families who show any of the well-marked signs of inherited syphilis should receive a course of antisyphilitic treatment, even if in other respects they seem to be entirely well; the results and indications of this treatment being controlled, if possible, by the serum diagnosis test. Third, where a case of syphilis, inherited or otherwise, appears in a family, all the other members of the family should be examined for signs of the disease, and if such are found, the bearer should be subjected to specific treatment. Fourth, by an extra-vigorous use of specific treatment the disease may be kept out of the second eye in a larger proportion of cases than has hitherto been thought possible.

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ABSTRACT OF DISCUSSION

Dr. L. Webster Fox, Philadelphia: The treatment of such patients is of very great importance. As a rule, as you all know, interstitial keratitis becomes evident in early childhood. I happened to be under the tuition of Jonathan Hutchinson in London along with other young men who listened to that distinguished general specialist when he called our attention not only to the central incisors, but to the molars as well, and when the French seemed to try to assert that it was a syphilitic condition unlike that of the central incisors, we who were under the great Hutchinson felt that his field had been invaded; those of you who have his monograph in which the drawings occur can see what I mean. Such cases are hard to handle. We see many of them in Philadelphia. I have at present six or eight patients in my clinic undergoing treatment. There is a very peculiar condition that arises and makes you feel that your hypodermic injections of mercury and your inunctions and gray powder in large and active doses do not have the effect they should. In other words, a keratitis goes on almost to the point of breaking down; the patients have been saturated with gray powder and sometimes with hypodermics of sublimate and yet in spite of that active treatment, when you feel you have gone almost beyond the point of endurance, the one eye gets well and then the other eye goes through the same process. What shall we do? There is only one thing, and that is to keep on with the mercurial and prophylactic remedies to prevent the development of these cases. They seem to develop just before early puberty in children that mature from 11 to 13. We have such cases with us constantly; and the English surgeons follow that line of treatment, and have similar results. I have also found that in such cases after the parents have gone through the mercurial treatment the cornea does not become clear. While the discussion was going on in regard to regeneration of the cornea it occurred to me that operation might be available in these cases. And yet I have seen corneas with dense tissues, with no light transmitted, clear up. I have found dionin very efficacious; and I have found that we can clear up these corneas by the use of sugar of salt 5 gr. with dionin.

Dr. S. D. Risley, Philadelphia: The fact mentioned by Dr. Fox, of the frequent occurrence of interstitial keratitis in the second eye after the first was far on the road to recovery, is a quite common experience. Its occurrence while the patient is saturated with mercurials suggests some other etiologic factor than the specific inheritance. In a recent paper I have suggested that it is impossible that the cornea alone would suffer from the syphilitic poison. The ductless glands, including the thyroids, are doubtless also impaired in their function, a fact which may, and doubtless does, account for many features of the symptom-complex characterizing inherited syphilis. Until the function of these glands is restored or reinforced by suitable treatment, recurrence of low forms of disease, especially in the avascular structures, of which the cornea is a type, is to be expected. In the paper already mentioned cases are reported in which rapid recovery of the interstitial keratitis, and striking improvement in the general health, followed the administration of the pulverized thyroid of the sheep after the usual treatment with mercurials, etc., had failed.

Dr. F. H. Verhoeff, Boston: Since it has been shown that in interstitial keratitis the spirochetes are present in the cornea, it would naturally suggest itself that we should endeavor to reach these organisms locally by mercury. So I have used the bichlorid in 1 to 5,000 solution three or four times a day. While in most of my cases both eyes have been affected at the outset, yet in those in which only one eye was affected the other eye has not become affected. Although I have used it in only a limited number of cases, it seems to me better than any other method of treatment; it certainly does no harm and is worth giving a thorough trial.

Dr. Walter L. Pyle, Philadelphia: I heartily approve of Dr. Gifford's plea for the prompt and persistent administration of antisyphilitic treatment in these cases, with the hope that the disease in the second eye will be prevented or greatly modified. The difficulties in proving a positive syphilitic heritage are so many that we are often justified in assuming such a family history in doubtful cases. There is, however, one point I want to strongly emphasize; that is, the urgent necessity of appropriate dietetic and hygienic treatment. We must remember that most of these patients are from the lower classes, and are insufficiently or improperly fed and live in the most unhygienic environments. As ambulant cases they are given prescriptions for the mercurials and iodids, and little attention is paid to the proper regulation of their personal and domestic hygiene. With the possibility of such distressing results as often follow this disease, perhaps forever destroying the victim's usefulness as a wage-earner, it seems almost imperative that many such patients should be admitted to the hospitals, and in their care and treatment the cooperation of the internist and dietetic expert be sought. I would not withhold the antispecific treatment, but I would have it intelligently and discreetly administered and augmented by the necessary hygienic and dietary regulations. It must also be remembered that juvenile malnutrition is not always confined to the homes of the poor. In fact, too often does the pediatrist see improper feeding producing grave nutritional disturbances among the children of the higher classes.

It is now authoritatively stated that many profound disturbances of metabolism may give rise to interstitial keratitis, and also to its associate symptoms, such as irregularities of the teeth, bone deformities, skin lesions, etc. Many observers to-day, particularly in Great Britain, believe that tuberculosis is almost as important a cause as syphilis. Nor must we overlook derangements of the important glandular secretions, and Dr. Risley has done well to call attention to the occasional value of thyroid extract in addition to the ordinary treatment.

Dr. John Green, St. Louis: I feel personally indebted to Dr. Gifford for calling our attention to the signs in the milk teeth in these cases. I believe that it is a matter that should be brought to the attention of the internist and the pediatrist even more than the ophthalmologist. In discussing this subject recently with a pediatrist of wide experience I found that he had but the vaguest idea of the peculiarities of the milk teeth in inherited syphilis.

Dr. Myles Standish, Boston: I think it may be necessary to say a word on the other side of the teeth question. I happen to have treated two children in a family in which there was a clear specific ancestral history and in which there was no doubt that the children had the so-called inherited syphilis, and in which there was a succession of three children with interstitial keratitis at about 8 years of age, and in whom all the teeth were perfect, both the first and second teeth. Therefore we do not want to base our diagnosis as to whether the interstitial keratitis is specific or not on the presence or absence of these teeth.

Of late years I have been led by some of the younger men to believe that a certain proportion of these cases are undoubtedly tuberculous. When they occur in persons of more advanced years—16, 18, up to 30 years of age—the probability is that we shall ultimately find that they are of tuberculous origin. I am not sure of that fact, but I believe that is the trend of the times. And even in cases known to be specific, non-specific treatment is not to be despised. For eight or ten years I believed and taught that interstitial keratitis was not due to the inheritance of the specific infection of the germ of syphilis. I have rather retreated from that position now. But during all of that period I treated all of my patients, both in private practice and in the Massachusetts Charitable Eye and Ear Infirmary, on hygienic principles, exactly as if tuberculous, and I never could see but that my patients did fully as well as those of my colleagues. So that this subject must be considered from both sides; it is not already proved that specific treatment is best, and it is not positively to be stated that all patients with interstitial keratitis have these peculiarities of the teeth.

Dr. G. H. Price, Nashville: I was glad to hear what Dr. Standish has just said in regard to some of these cases of interstitial keratitis, because I have found it difficult at times to discover whether the condition is of specific origin or not. The classical treatment of this condition, namely, that along antisyphilitic lines, I have found sometimes did not reach the case and improvement did not occur as rapidly as we expected.

Dr. A. R. Baker, Cleveland: I endorse what Dr. Risley has said in regard to the use of thyroid. Along the southern shore of Lake Erie we have an unusual amount of trouble from the thyroid gland, and it is said that we have there more operations for the removal of the thyroid than in any other part of the country. It is almost a routine practice with us to give preparations of the thyroid gland in all cases of interstitial keratitis. Before its use became popular we had found from clinical experience that the syrup of the iodid of iron was beneficial. We used it not with the idea that it was antisyphilitic, but on account of its good effect in all such cases. Now, in my early training in London we were taught to give immense doses of mercury, and I think one of the things I may be punished for hereafter is the large doses I gave. It is necessary to use mercury, but the patient must be in good condition first; it must be given so as to improve rather than to injure the general health of the patient. It is sometimes necessary to treat the patient weeks or months before giving the mercury. Generally speaking, now, in a case of interstitial keratitis of one eye, I do not expect the other eye to be involved. I think when I was using mercury alone the second eye nearly always became affected. I also give iron and arsenic, feed the patient, recommend fresh air, etc., as in tuberculosis. A frequent symptom in such cases is enlargement of the knee. The other day three such children were brought into my clinic. All of them had had enlarged knees. We find this almost as constant a symptom as the Hutchinson teeth in syphilitic cases.

Dr. A. E. Bulson, Jr., Fort Wayne: I want to emphasize the statement of Dr. Standish as to the tuberculous origin of such cases. We have been accustomed to attribute them in large measure to syphilis. Recently I have undertaken some tests to determine the number of cases due to tuberculosis and I have been surprised to find how many respond to the diagnostic tests for tuberculosis. Of course the majority of the cases in which the tests have been applied have been those in which a definite syphilitic history could not be established and in which there were no syphilitic stigmata. It seems to me that when we give this subject further study we shall find that syphilis is not quite such a large etiologic factor in the production of these cases as was supposed. I also want to insist on the importance of dietetic management, emphasized by Dr. Pyle. I know a large percentage of the patients will recover under diet alone. I also believe that hygienic treatment is of extreme importance. Often we find children with interstitial keratitis being kept indoors and in darkened rooms. I think that is one of the worst things that can happen; it has been my policy invariably to keep them out, if necessary bandaging the eyes. But above everything else, I regulate the diet, and give the patients good, wholesome, nutritious food.

Dr. H. Gifford, Omaha: There are three points in my paper that I thought were to a certain extent new: In the first place, the importance of looking after children with signs of inherited syphilis whether they have interstitial keratitis or not. Go into the orphan asylums, the public schools, and all institutions for children and if you find them with inherited syphilis look up the families and if any reasonable grounds are found for giving antisyphilitic treatment give it. If they are tuberculous, treat the tuberculosis. If you obtain the reaction for tuberculosis, that is no reason for concluding that the patients have not syphilis. The second point was to use arsenic in connection with mercury in these cases. I have a very definite idea since pushing arsenic with mercury that I have obtained better results than before. Third, in using mercury do it at once, go at it hard and keep at it hard. I used to think that syphilis had little to do with interstitial keratitis, but I have come to the very definite conclusion that it is the active manifestation of the syphilitic organism. Before when I used the iodids, etc., I invariably had the other eye affected within six months; but since giving arsenic and mercury and the salicylate I do not, and I have a very definite idea that the salicylate is of decided value in connection with the other things, and I certainly do not see serious cases such as I used to have.

In regard to Hutchinson's relation to these molar teeth: Hutchinson described a single Fournier molar, but he did not think it had anything to do with syphilis. The point the Frenchman made in regard to it is certainly of importance and value. The form of molar I refer to, what I call the sloped molar, is there when the other teeth are all right. The first case was that of an unusually well-built boy, who had been absolutely well, robust and healthy up to 13; after that he had an inflammation of the knee, interstitial keratitis and necrosis of the hard palate. Then in a couple of years the sister came in with the same thing and I gave her mercury, arsenic and salicylate treatment and she had only one eye affected. I think the point made by Dr. Pyle as to diet is a good one. None of us know too much about diet. I do not think we get too much light from the men who make it a specialty.

Mammalian Cerebellum.—Van Rynberk (*Folia Neuro-biol.*, I, pp. 403-19, 535-51) gives a summary of the recent work on the cerebellum. The work of Bolks on the comparative anatomy of the cerebellum of mammals is especially criticized. Van Rynberk concludes, "From the above, we can consider the cerebellum of the mammalia, from the standpoint of comparative anatomy, as one of the fundamental group of organs, in which (cerebellum) the subdivisions show a varying degree of development and the structural and functional complexes a degree of development comparable to the various muscular divisions of the body." Microscopic anatomy shows the cerebellum to be the turning-point of two chains of reflexes—a somato (and cephalo-cerebellar) and a cerebrocerebellar reflex arc. The first belongs to the propioceptive system (the system of muscular sensation). Functionally the cerebellum serves as a reflex-strengthening organ of the motor nervous mechanism. By means of its somatic and cephalic connections it takes part in the form regulation of all voluntary muscles of the body, and its afferent cerebral connections indicate that it gives strength and constancy to voluntary muscular movements. These functions are controlled from centers in the cerebellum corresponding to the muscle groups of the body. By means of its efferent fibrous tract in the propioceptive system the cerebellum communicates with the cerebrum and thus completes the somatopsychic path.

SIMPLE FIBROMA OF THE ORBIT *

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Professor of Clinical Ophthalmology and Associate Professor of Ophthalmology University of Illinois,
CHICAGO

Simple fibroma of the orbit I take to be one that springs from the retrobulbar connective tissue, i. e., the orbital fascia within that cavity. Orbital fibroma commonly arises from the periosteum of the orbital walls and less commonly from the sheath of the optic nerve; occasionally from the capsule of the lachrymal gland and rarely from the tendons of the muscles (G. Mizno[1]).

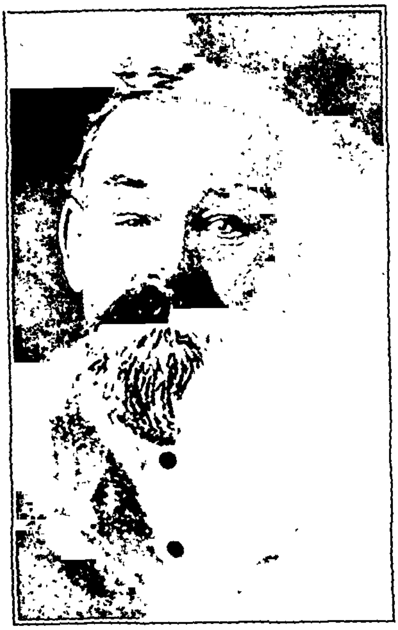

Fig. 1.—Photograph taken 1 year before operation. Deformity not so great as at time of operation.

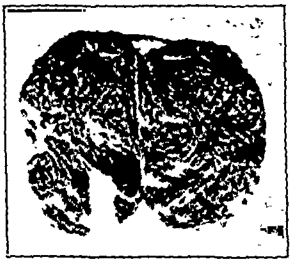

Fig. 2.—Tumor split in halves, showing cut surfaces, hinging on capsule. Gaping portion indicates part removed for section.

Marchetti[2] reports a case of "peripheral fibroma" which developed on the infraorbital nerve "causing elephantiasis of every part of the skin which was supplied by the compressed nerve." It is altogether probable that this tumor should have been classified as plexiform neuroma.

A few reports have been made of subcutaneous fibroma of the eyelids (Mizno[1]).

Fibromata of the skin of the eyelids occur in general fibromata (Oliver[3]).

Heretofore it has not been definitely determined that fibroma is ever derived from retrobulbar connective tissue. Lagrange has collected reports of cases which, to more or less extent, argue such origin.

In my opinion, Goldzeicher[4] comes the nearest to proving the point. He reports a case of freely movable encapsulated tumor in the orbit in a male, 17 years of age. A report of the microscopic examination is as follows:

> Hard connective tissue fibers bound the tumor together, containing sparse, spindle-shaped cells. Fibers generally run parallel; in spite of the hardness of the tumor contain many blood vessels of all shapes. with endothelium; fibers of the periphery of the capsule over the posterior orbital surface were compressed and poor in cells. The impression given is that the neoplasm arose from a vein.

A most careful study of the microscopic section is necessary in order to differentiate between endothelioma and fibroma. It is in the hope of shedding light on this mooted question that the following case is here reported:

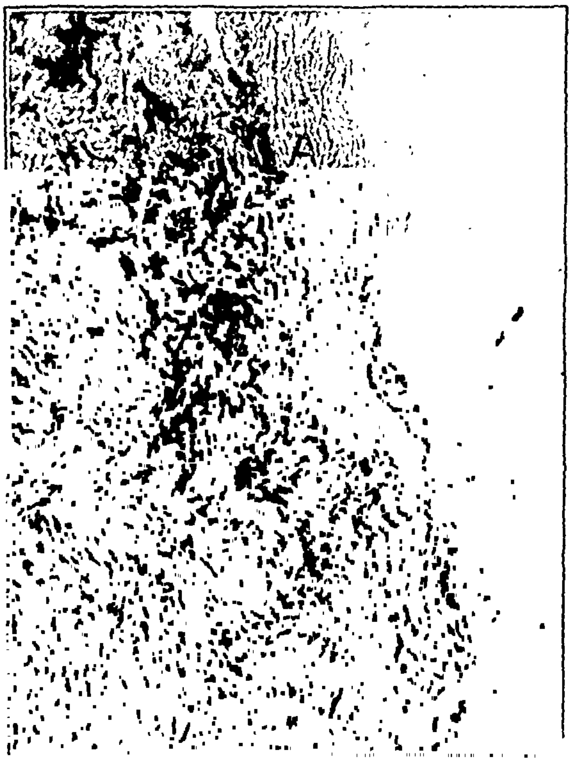

Fig. 3.—Low power: × 125; *a* indicates capsule.

Patient.—Mr. L., aged 55 (Fig. 1), came under my observation Aug. 21, 1905, on account of a drooping of the right eyelid, he having been referred to me by Dr. F. C. Dielman, Fulton, Ind. The patient first noticed this deformity three years before. During the previous six months the deformity had rapidly become worse. There was no history of injury or other disease of the eye. The eye was displaced downward and forward. There was a dull ache when the patient was out in the wind. Vision was 20/20. There was no change in the fundus. Deep pressure with the little finger between middle of the upper orbital margin and the eyeball revealed a hard movable mass which was not tender on pressure. There being no history or evidence of syphilis, I advised an operation.

Operation.—On August 22 an incision was made in the brow, conforming to the supraorbital margin, down to the periosteum. The orbital fat being dilacerated by a grooved director and the pointed scissors, a white, hard, encapsulated tumor about the size of a small hickory-nut came into view (Fig. 2), which was pulled forward and with the aid of the director and fingers was readily enucleated.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Mizno, G.: Nippon Gankwa Gakukwai Zasshi, 1904, v, No. 8.

[2] Marchetti: Ann. di ottal. e Lavori d. Clin. ocul., Naples, 1904, xxxiii, 29.

[3] Oliver: Ophth. Rec., viii, No. 6.

[4] Goldzeicher: Centralbl. f. prakt. Augenh., 1894, xviii, 65.

Tumor.—Microscopic examination (Fig. 3) showed it to be a pure fibroma, homogeneous throughout. Few blood vessels were present. Parsons[5] says that the best test of simple fibroma would seem to be encapsulation, fibrous tissue composing the growth being matted together at the periphery. How well this tumor meets this test is shown by the accompanying photomicrographs (Figs. 3 and 4).

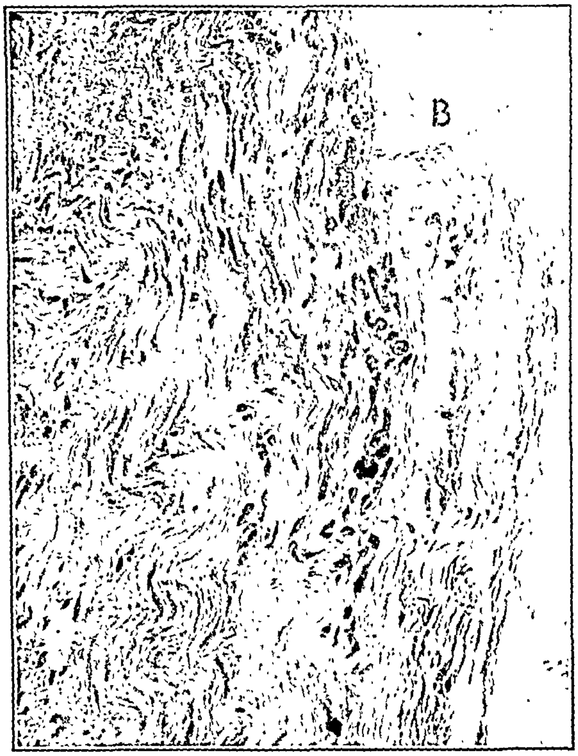

Fig. 4.—High power microscopic view of same section. × 300; *b* indicates capsule.

Postoperative History.—Nearly four years have elapsed since the operation. No recurrence has taken place. The eye is restored to its normal position and the cosmetic effect is good.

I am under obligations to Dr. W. L. Grosvenor, Dr. W. A. Walters for section of tumors, and to Dr. C. G. Darling for photograph.

103 State Street.

ABSTRACT OF DISCUSSION

Dr. George F. Keiper, Lafayette, Ind.: The description of the tumor removed by Dr. Gamble is exceedingly interesting. An examination of the photomicrographs submitted would lead to a desire to examine sections from other parts of the tumor, in order to be sure that the tumor is a simple fibroma. The presence of spindle-shaped cells lends suspicion as to endothelioma. In fact, a section of normal tissue adjacent to the tumor should be submitted, In all cases, in addition to the tumor a piece of normal tissue adjacent to the tumor should also be submitted to the pathologist, that comparison may be made between what is normal and what is supposedly pathologic. At the conclusion of the paragraph quoted from the second volume of Parson's "Pathology of the Eye." is this statement: "Endotheliomata require careful examination in some cases to distinguish them from simple fibromata, and it is not unlikely that further research will eliminate simple fibromata from the list of orbital growths." By the way, the term "endothelioma" should be discarded and sarcoma should be called sarcoma.

Dr. G. C. Ring, Philadelphia: Possibly it has fallen to my lot to see rather more orbital growths than the average ophthalmologist because of my identification with an institution which treats only tumors. I have recently completed the study of a growth that I believe unquestionably belongs in this class. It is not by any means easy clinically to make such a diagnosis. First of all, we naturally expect that a benign growth should be of long standing. The case I have in mind was treated by several physicians; a number are present who have seen it; it had a history of between six and seven years' growth. Now, a history of that length or even more does not eliminate, as we perfectly well know, the possibility of malignant disease. The well-known cases of Lenhart and others indicate that endothelioma, or one of the modifications of sarcoma, may exist for ten or more years. But if it has such a long history, if the rotation of the eyeball is extensive in most directions, all but one or two, and if no metastasis is present, we can at least begin to think of the possibility of a benign growth. If it happens to be displaced downward and inward as the growth I have in mind was, then sinus disease must necessarily be carefully considered. And if we find today, as I think most of us do, that the *x*-ray has not given the final word in sinus diagnosis, and if we likewise find, as I think most of us do, that illumination of the sinus has not given the final word, then it becomes extremely difficult to make a diagnosis in such cases, and I think only exploratory incision and operation and the microscope will give the final word. The patient just mentioned, on whom I have recently operated, gave some symptoms strongly suggestive of sinus disease. Indeed, a sinus disease diagnosis had been made by two most competent men. The case gave some suggestions of a malignant growth, and a corresponding diagnosis had been made. But when all the points were carefully considered, and when one saw the case as I did, having back of me the preliminary study made by the others, it was not difficult to suggest finally that the growth was benign.

I therefore made, in order to eliminate the possibility of sinus involvement, a modified Killian incision and definitely decided that the sinus bore no relation to the symptom-complex. The growth was so situated—had developed up and in—that a Kroenlein operation was decided to be practically out of the question. A large growth, at least as large as a large walnut, was removed and examined by a capable microscopist, who unhesitatingly pronounced it a benign orbital fibroma. There were no metastatic suggestions, and of course while it is far too early to know what the ultimate outcome will be, so far as the records are concerned the growth seems to be a pure orbital fibroma. The microscopic details and entire history of the case will be presented at the coming meeting of the American Ophthalmological Society.

Clinical Notes

TRACHOMA BODIES

POSSIBLY THE ETIOLOGIC FACTOR OF TRACHOMA *

BROWN PUSEY, M.D.
CHICAGO

In April, 1907, Halberstädter and Prowazek[1] described some bodies which they had found in epithelial cells taken from trachomatous conjunctivæ and which, they maintained, were the etiologic factor of trachoma. A few weeks later Greeff,[2] Frosch and Clausen,[3] working together, published papers describing the same bodies and ascribing the same importance to them.

As was to be expected, this discovery and the claims of the discoverers have been the subject of much attention and discussion; just now much is being published on the subject in the German journals. Other investigators have taken up the work, and in suitable cases are confirming it; that is, in acute untreated trachoma they are finding these bodies almost constantly. In the later stages of the disease the bodies are not found in the epithelial cells. Two of the most recent articles on this subject are by Stargardt[4] and Herford,[5] respectively.

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[5] Parsons: Pathology of the Eye, ii, 228.

* From the Department of Ophthalmology, Northwestern Medical School.

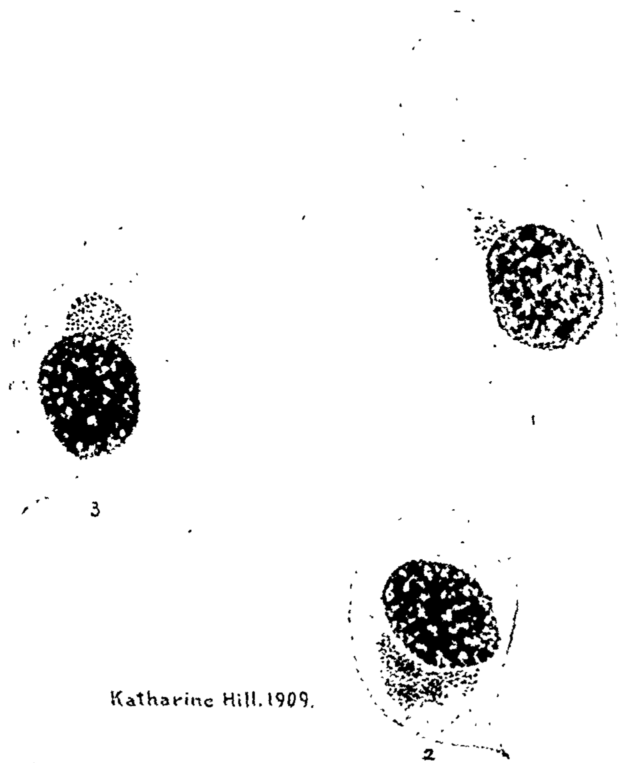
[1] Halberstädter und Prowazek: Ueber Zelleinschlusse parasitärer Natur beim Trachom, Arb. a. d. k. Gsndhtsamte., 1907, xxvi, 1.

[2] Greeff: Ueber eigenthümliche Döppelkornschen (Parasiten) in Trachomzellen, Deutsch. med. Wchnschr., 1907, No. 23.

[3] Greeff, Frosch and Clausen: Untersuchungen über die Entstehung und die Entwicklung des Trachoms, Arch. f. Augenh., 1907, lviii, 1, 52.

Supporting the idea that the bodies found in acute trachoma are the causal factor of this disease is the fact that persistent search by many investigators has failed to reveal similar bodies in normal conjunctivæ or in pathologic conjunctivæ other than those affected with trachoma. Stargardt, in the article mentioned above, reports the search, with negative results, for the bodies in many epithelial cells taken from the conjunctivæ suffering with various affections other than acute trachoma.

Another important fact supporting the idea that these bodies are the causal factor of trachoma is the finding of them in conjunctival cells taken from apes which have been experimentally infected with the disease. This experiment, which has been made several times by various investigators, of course, has been properly controlled.



Trachoma bodies: 1. Beginning of growth of bodies in the cell; 2 and 3, development in later stages.

Lately I have had in my charge a case of distinct clinical acute trachoma in which I found these bodies (see illustration). The smears from which the drawing was made were prepared by scraping the everted conjunctiva with the edge of a cover-glass; the scrapings were spread over the glass and allowed to dry in the air; then the material was fixed for twenty minutes in methyl alcohol: then stained for twenty-four hours with Giemsa's stain. Cell 1 shows the beginning of the growth of the bodies in the cell as described by Prowazek; Cells 2 and 3 show the development in later stages. The separate bodies—trachoma bodies, according to Prowazek—are smaller than small cocci. They are supposed not to be bacteria. Cultural efforts have been without result.

Some investigators maintain that in these bodies we have, without question, the cause of trachoma (Greeff); others are not so sure. Certain it is the matter as it now stands is one of much interest.

70 Madison Street.

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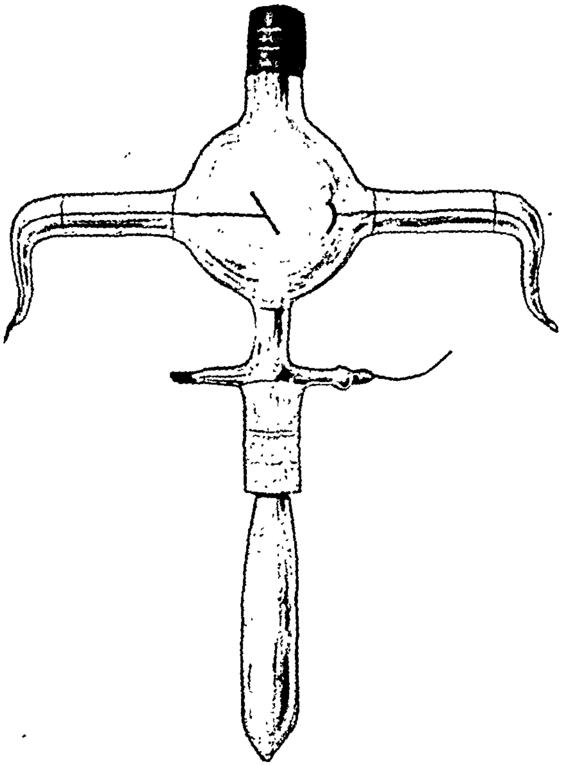
[4] Stargardt: Ueber Epithelzellveränderungen beim Trachom und andern Conjunctiv[illegible] phth., lxix,3, 525.

[5] Herford [illegible] Klin. Monatsbl. f. Augenh., M[illegible]

A MODIFIED "CORNELL" *X*-RAY TUBE

R. L. SUTTON, M.D.
KANSAS CITY, MO.

About one year ago Geyser,[1] of New York, described an *x*-ray tube of new and novel design. This appliance, which he called the "Cornell" tube, was made of heavy lead glass, with the exception of a circular window of flint glass for the passage of the rays. When the tube was in use, this window was applied to the skin, the glass being tightly pressed against the area to be treated.



A modified Cornell *x*-ray tube.

The principal claim advanced for the new apparatus was that when properly employed long exposures could be given without danger of burning the patient. In over 5,000 cases Geyser had never seen any untoward results. Lesser factors in favor of its more general adoption were the increased effect secured from exposures at the closest possible range, the protection of the operator without the intervention of extra shields, and the moderate cost of the tubes.

The principal argument against its use was that many experienced Roentgenologists considered it as yet in the experimental stage, and believed that eventually it would fail to justify the claims of the inventor.

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[1] The Journal A. M. A., March 28, 1908, p. 1017.

Soon after the publication of Geyser's paper I secured one of the tubes from the makers of the original instrument. My experience with it was such that, shortly afterward, I ordered two more and, later, four more. The main fault I found with the tubes was their instability. Occasionally one would have a working life of fifty or sixty hours; the next would probably puncture the first time it was connected up. In addition to this, the small amount of space in the interior of the bulbs (which average only about 4.5 cm. in diameter) rendered a proper regulation of the vacuum extremely difficult. Because of these objections I had the manufacturers make for me a larger tube, the body being 12 cm. in diameter and the anode and cathode being separated by a space of 7.5 cm.

In order partially to protect the patient from the high-frequency sparks that are given off at the circumference of the window, the barrel is surrounded by a soft rubber band, 4.5 cm. in width, the outer edge of which projects slightly beyond the edge of the tube and comes in contact with the patient's skin. Enough stimulation is secured to ensure protection, and the patient experiences but slight discomfort.

I agree with Snow,[2] that the partial or complete immunity from dermatitis gained by the use of these tubes is due to a stimulation of the tissue activities which the rays ordinarily inhibit. By interposing a broad sheet of soft rubber (1 cm. in thickness) between the window and the closely shaven skin of a guinea-pig I have been able, on two separate occasions, to cause burns with exposures of less than fifteen minutes each.

The larger tube has proved very durable. After more than forty hours of use it is still in excellent condition. Although tubes of the Cornell type can not be satisfactorily employed in all cases, because of either the size of the lesion to be attacked, or the topography of the parts involved, they can be utilized in a large percentage of skin diseases in which the x-rays are indicated.

276 Ridge Building.

PENETRATING WOUND OF THE LUNG

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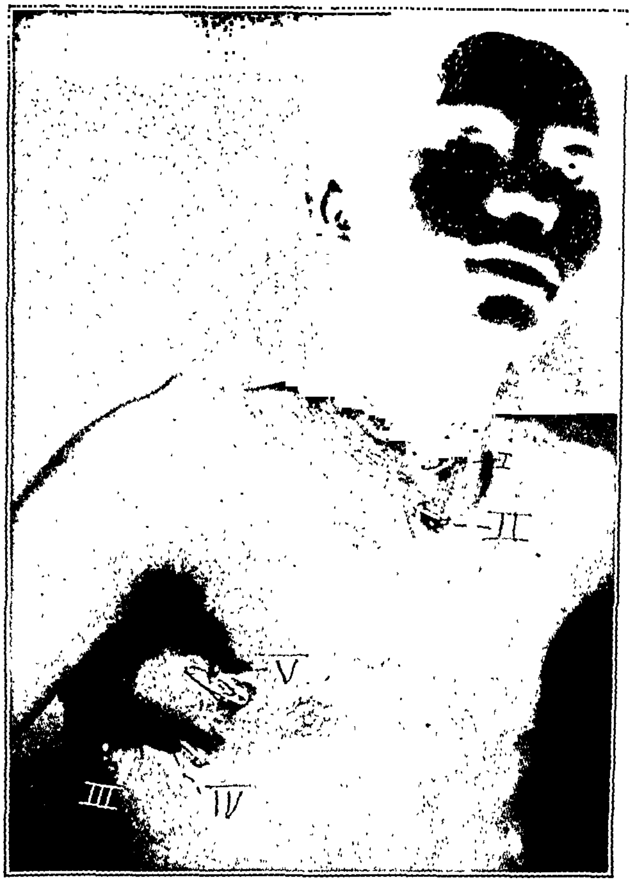
RICHMOND, VA.

The following case is of interest, not only on account of its very extensive character, but also as it illustrates a type of wound that has become extremely rare since men have discarded the spear in battle.

History of Accident.—The patient was a tall, well-muscled negro, 20 years of age, engaged in saw-mill work. On June 22, 1908, about 10:30 a. m., while in a stooping posture in front of his saw he was struck full in the throat by a rough, undressed, blunt-ended, pine strip, eight feet in length, and an inch by an inch and a quarter in diameter. The strip was caught in the teeth of the saw, which was making 6,000 revolutions per minute, and hurled like a javelin with terrific force. It made a ragged wound of entry in the median line of the throat, a half inch below the cricoid cartilage, went downward and to the right, beneath the skin and superficial fascia, behind the sternum and clavicle, over or through the apex of the right lung, crashed through the third and fourth ribs in the midaxillary line, plowed beneath the muscles and fascia and presented beneath the skin over the seventh rib in the posterior axillary line, which it stretched to the utmost. It was submerged eighteen inches from its tip to the wound of entry. After making an effort to pull out the stick, using both hands, the man fell and called for assistance from the other workmen, who also failed to dislodge the strip. The long end was then sawed off, leaving ten or twelve inches for a grip, and a physician summoned.

First Treatment.—Dr. J. T. Doles, of Ivor, Va., reached the patient an hour later. The man was profoundly shocked, and absence of the right radial pulse led to the conclusion that the subclavian artery had been torn. Having stimulated the patient, cleaned the parts and prepared two yards of iodoform gauze for packing, Dr. Doles enlarged the skin wound, without anesthetic, and withdrew the stick, the forefinger being thrust deep into the wound to disengage the splinters which hung on the fascia and muscles when traction was made. There was a tremendous gush of blood, but with long dressing forceps the gauze strips were packed as deeply and tightly as possible into the wound and soon the bleeding was under control. A large hematoma quickly formed over the seventh rib at the point of the stick. This was opened and a quantity of blood evacuated and the wound then packed with iodoform gauze for dependent drainage. Occlusive dressings were applied and moderate stimulation instituted.



From photograph of patient with penetrating wound of lung, taken before the tubes were removed. It shows: (I) the wound of entry healed; (II) a tube in the incision over the suprasternal notch: (III) the wound of exit in the posterior axillary line; (IV) the tube leading into the pleura at point of resection of the seventh rib and midaxillary line; (V) the tube in the upper arm of the U-shaped incision last made exposing the area of greatest trauma.

The next day the patient had recovered enough to travel and was brought to Richmond and put under my care at the Virginia Hospital. On June 23, the second day after the injury, the temperature was 102, the pulse 118; there was no cough or bloody expectoration, and no pain; there was dulness over the upper right lobe, well-marked emphysema under the skin in the axillary region over an area larger than the hand. Respiration was about 22; dressings saturated with blood and serum, throat and side both draining profusely. For a week the patient's condition remained about the same, the temperature never going over 102, the pulse 120, and respiration remaining about 22 to 24. He seemed comfortable and gave no evidence of a pneumonia (as commonly accepted). The drainage, still sero-sanguineous, was most profuse. An *x*-ray by Dr. A. L. Gray showed *consolidation* of the upper lobe, but the iodoform gauze did not cast a sufficiently heavy shadow to map out the track made by the stick, as I had hoped. The drainage strips had been shortened from day to day and on the 29th, the seventh day after injury, I removed, as I believed, all, reaching well below the clavicle to get the buried end, and replacing fresh gauze in both wounds. Dr. Garnett Nelson made a physical examination and reported fluid in the pleural cavity. The patient's temperature was running from 103 to 104 and his pulse 120.

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[2] Jour. Advanc. Therap., January, 1909, p. 52.

First Operation.—On July 1, the tenth day after injury, the seventh rib was resected in the mid-axillary line, lengthening the wound of exit. A cavity was found as large as the fist but I could touch the lung on all sides. About a pint of dark serum was evacuated and the patient had a lower temperature and seemed much improved for several days. The original wound of exit at the seventh rib had healed. The throat wound was pouring out quantities of green pus, but the high skin flap held this back, puddling it in the wound.

Second Operation.—On July 5, the fifteenth day after the injury, I made an incision under cocain just above the suprasternal notch and with my finger as a guide introduced a large rubber tube over into the apex of the right lung. This drained profusely and kept the cavity empty, the patient being turned on his left side. The improvement following this step was but temporary. The pleural operative wound was all this time draining serum, while pus flowed from the incision in the neck. On July 11, the twenty-first day after the injury, the original counter-incision reopened and drained thick greenish pus.

Third Operation.—On July 15, the twenty-fifth day after the injury, under cocaine, I prolonged the puncture wound upward and backward, following a sinus that led toward the axilla close to the ribs. Several pieces of pine bark escaped, and a good-sized rubber tube was put in. Pus now flowed freely from this wound and the neck incision, but only serum from the pleural cavity.

My conclusions were that the stick had gone diagonally through the apex of the lung (this idea was warranted by the emphysema), burst through the seventh interspace, post-axillary line; that adhesions of parietal and visceral pleura around the wound of exit had taken place; that the splinters and bark had caused the sinus to suppurate and reopen below, leaving the pleura cut off and draining serum. Improvement was again only temporary. Though the drainage was profuse, the patient's temperature ran higher, reaching 104; his pulse was rapid and weak. He began to lose flesh and strength. There was marked dulness behind, extending below the tip of the scapula. Thinking to find pus retained here I again operated, this time under chloroform.

Fourth Operation.—On July 20, the thirtieth day after injury, a large piece of the seventh rib was resected, revealing the lung, now completely collapsed. Next the wound of exit was enlarged and its sinus dissected up toward the axilla, several pieces of bark were removed and a good sized piece of iodoform gauze that lay between the muscles and the ribs. This had been packed in across the chest from above or had gradually worked down the sinus. Two loose pieces shattered from the third and fourth ribs, one and one-half and two inches long were removed. The incision was carried up anteriorly, making a horseshoe flap, which was raised so the area could be thoroughly cleansed and a large drainage-tube placed in the upper angle, giving a more direct route to the infected area. The sharp edges of the ribs from which the pieces had been broken could be plainly felt. The flap was sewed back, leaving small drains below and a tube of good size in the pleura. The throat wound was next explored and a piece of bone as long and as broad as the first joint of the thumb was taken out of the sinus behind and below the clavicle. This evidently was split from the manubrium.

Postoperative History.—Improvement was now rapid, drainage soon materially lessened and he was soon out of bed. Small bits of bark continued to work out. He was required to blow water from one lithia bottle to another several times a day and under this exercise his lung rapidly expanded. Before the tubes were removed a second *x*-ray plate was taken to show the track of the sinus by the drainage tubes. The patient left the hospital August 18, at the end of the seventh week, with a well-expanded lung and but little drainage. The latest report received is dated November 14. The patient is able to do some work, is not as strong as before the accident, but feels well. Wound 2 in the throat still discharges a little and a number of splinters and pieces of pine bark have been extruded. The other wounds have healed.

1000 West Grace street.

A MODIFIED APPARATUS FOR FRACTURE OF THE CLAVICLE.

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Of the bones of the body the clavicle is perhaps the one most frequently broken. Hence the frequency with which practitioners are called on to treat this form of injury. In the greater proportion of these cases, as is known, the break occurs near the junction of the middle and outer third of the bone.

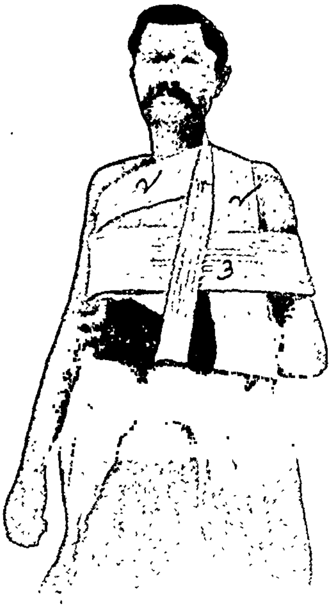

Fig. 1.—Front view of patient with dressing for broken clavicle applied.

The clavicle fills the office of a brace and acts to prevent the shoulder from falling on the thorax. When the clavicle is broken the shoulder will fall downward, forward and inward. The action of three muscles, the sternomastoid, the trapezius and the pectoralis major, are of great importance in considering the proper treatment of these cases. The two former muscles tend to pull the fragments upward. The fibers of the pectoralis major that take their origin from the highest part of the clavicle, because of the semirevolution made by the tendon of this muscle, are attached lowest down along the bicipital groove of the humerus. By forcing the elbow far backward the fibers of the great pectoral are pulled on, the upward pull of the two muscles mentioned is counteracted, and the tendency of the fragments to jut up under the skin and show as a deformity is overcome.

Numerous methods of dressing have been suggested and made use of in the treatment of this condition. The prime indications are to keep the shoulder upward, outward and backward.

The Velpeau apparatus has long been in use and is often resorted to in the present day, but it has objections. In spite of the frequent examinations, the dressing will stretch and almost invariably it becomes loose and displaced, thus permitting falling of the shoulder, separation of the fragments, with the too frequent occurrence of deformity at the point of fracture.

Freer's dressing of adhesive plaster, better known as Sayre's, while an improvement over that of Velpeau, also has its objections. It is sticky and disagreeable to the patient and is very liable to become loosened, and is difficult to keep properly applied. More particularly is this the case in warm weather or when the patient perspires. The results obtained by this method are frequently disappointing.

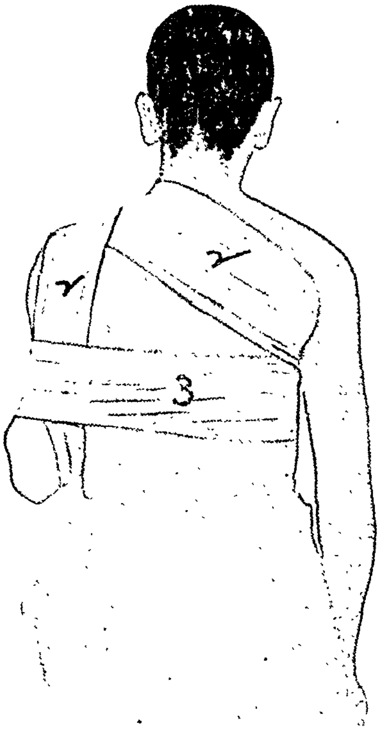

Fig. 2.—Back view of patient with dressing for broken clavicle applied.

In attempting to maintain the fragments in position in the case of a comminuted fracture of the clavicle in the outer third, and after having tried in vain by the use of the other known dressings, I hit on the following plan of fixation, which proved so satisfactory in this and in other similar cases subsequently treated that I have thought that it might be of some interest to give a short description of the method of applying the dressing, etc., with illustrations showing the dressing in position.

The dressing used is a modification of Sayre's and Moore's double figure-of-eight. The elbow is pulled well back and lifted at the same time, so as to lift the shoulder. A strip of adhesive plaster three and a half inches wide and about four feet in length is carried from within outward, around the arm a few inches above the elbow and horizontally across the back and made to encircle the chest, in the same manner that the first strip of adhesive is applied in the Sayre dressing. By this means the shoulder is secured in correct position and the arm is fixed at the side. This strip of adhesive plaster does not show in the photographs, as it is concealed by Bandage 3 being placed over it. Bandage 2, a four-inch gauze or muslin strip, begins at the side of the neck above the injured clavicle and is carried well outward toward the shoulder, thence beneath the forearm and upward behind the arm over the shoulder of the same side, crossing the chest diagonally at the base of neck to the axilla of opposite side, and thence beneath the axilla and diagonally upward across the back to the point of beginning, forming a single figure-of-eight. Several layers of the bandage are securely applied in the manner above described. By this means a support is furnished to the forearm and elbow, and in addition the combined weights of the arm and shoulder are utilized for the purpose of exerting pressure on the fragments at the intersection or crossings of the bandages. In some cases it will be found necessary to insert a pad under the dressing at the seat of fracture for the purpose of maintaining more pressure on these parts.

Bandage 3 is applied in the same manner shown in the illustrations. It is carried horizontally around the chest over the already fixed arm over Bandage 1, and, while acting to maintain this adhesive strip more securely in place, it also assists in holding the arm more firmly to the side and lessens motion. A support in the form of a sling for the hand and forearm completes the dressing.

Figure 1, from a photograph taken at the time of removal of apparatus some three weeks subsequent to application, shows but a slight degree of looseness and derangement of the dressing, although it was not changed or molested in the interval. The patient was comfortable throughout and the result obtained was highly satisfactory. Figure 2, from a photograph of another patient, taken directly after the dressing was first put on, shows to better advantage the method of applying same than does Figure 1.

In the somewhat limited number of cases, amounting to five or six in all, in which this method of putting up a fractured clavicle was resorted to, for which nothing new or original is claimed, I believe better results were obtained than could have been obtained with the use of either the Velpeau or Sayre apparatus. Less deformity is noticeable after healing of the fracture, and through the thorough fixation of the arm and shoulder a greater degree of comfort is thereby afforded to the patient, the annoyance resulting from the daily examination and rearrangement of the dressing is done away with, and on the whole a more satisfactory outcome is, I believe, obtained.

I trust I may be pardoned for suggesting the trial of the above described modified apparatus to those who may meet with the difficulty so frequently encountered in maintaining the proper reduction and fixation of the parts in treating fracture of the clavicle.

Preventive Hemostasis in the Nose.—Escat has been frequently able to do away with the necessity of postoperative tamponing of the nose by a preventive application to the field of operation of ferric chlorid, or of a 1 or 2 per cent. alcoholic solution of tannin. The patient is then watched for half an hour or so, and if no secondary hemorrhage occurs tamponing is not necessary. The astringent and coagulating action of these drugs is peculiarly effectual in the nose, as he shows by his experience with them related in the *Archives Internat. de Laryngologie*, xxii, No. 3, page 870.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 2107, Vol. LII)

MERCURIC SALICYLATE—Hydrargyri Salicylas.—Hydrargyrum salicylicum (Pharm. Germanica, edit. 4; Pharm. Helvetica, edit. 4).

Mercuric salicylate, $Hg.C_6H_4.O.COO$, is a mercuric salt of salicylic acid in which one atom of mercury has combined with one molecule of salicylic acid by replacing the hydrogen atoms of the phenolic hydroxyl and carboxyl groups.

Mercuric salicylate may be prepared by precipitating the mercuric oxide from 27 parts of mercuric chloride as directed in the case of Hydrargyri Oxidum Flavum, washing, placing in a flask with a little water and 15 parts of salicylic acid, and heating on a water-bath with agitation until the mixture is perfectly white. Collect the precipitate, wash until free from acid, dry at 30° to 40° C. (86°-104° F.), and finally at 100° (212° F.).

Mercuric salicylate occurs as a white amorphous powder, tasteless, odorless and neutral to litmus paper, slightly soluble in water or alcohol, but soluble at the ordinary temperature in solutions of sodium hydroxide and sodium carbonate with formation of a double salt. From these solutions it is reprecipitated by acids. It is soluble also in warm solutions of chlorides, bromides and iodides. On ignition it is entirely volatilized. Strong mineral acids decompose it, especially on heating, and after this decomposition hydrogen sulphide precipitates black mercuric sulphide from the solution.

When shaken with water the resulting solution gives a violet coloration with ferric chloride.

An aqueous solution of mercuric salicylate is not precipitated or colored immediately by hydrogen sulphide or ammonium sulphide.

0.1 Gm. of mercuric salicylate heated in a small tube with a small crystal of iodine produces the characteristic orange to red colored mercuric iodide (Pharm. Germanica, edit. 4). 0.3 Gm. mercuric salicylate mixed with about 3 Gm. sodium chloride and dissolved in 100 Cc. boiling water should upon diluting to 400 Cc., acidifying with hydrochloric acid and passing hydrogen sulphide, yield 0.2 Gm. mercuric sulphide.

Action and Uses.—Antiseptic and antisyphilitic. It has been stated that it is easily tolerated by the stomach and that it does not produce salivation, but it may produce some gastrointestinal irritation occasionally, even when used hypodermically. The lack of salivation is probably due to its insolubility and slow absorption, not to any peculiarity of its effects. It is used as a disinfectant and as a remedy in syphilis and in certain skin diseases.

Dosage.—0.003 to 0.008 Gm. (1/20-1/8 grain). For hypodermic injections a suspension in liquid paraffin, one part in 10, is used; before injecting the mixture must be well shaken in order that the insoluble salt may not remain at the bottom. The needle and syringe should be thoroughly cleansed after each injection, as the insoluble drug readily clogs the instrument. At first, 0.65 Cc. (10 minims) of the mixture described should be injected deeply into the gluteal region every fourth day and this may be increased to every second day if no symptomatic evidences of the action of the drug appear. It is used in the form of dusting powder and ointment (1 in 10). A suspension in a mucilaginous vehicle (1 in 300) is used as an injection in gonorrhea, 1 Cc. (15 minims) being injected at a time. As a disinfectant the salicylate is as powerful as mercuric chloride, its great drawback being its insolubility; in order to overcome this difficulty the following formula has been devised: Mercuric chloride, 1 part; sodium salicylate, 3 parts; dissolved in distilled water, 100 parts.

PICRIC ACID—Acidum Picricum.—Acidum Picricum (Pharm. Française, 1908). An organic acid, $C_6H_3O_7N_3$ or $C_6H_2.OH.(NO_2)_3$ (1:2:4:6), obtained by nitrating phenol.

Picric acid occurs as orthorhombic yellow prisms, odorless, but with a very bitter taste, with a specific gravity of 1.81 and melting at 122° C. (251.6° F.). It is explosive when heated to a high temperature. It is slightly soluble in cold water, imparting a yellow color to a very large volume of water. It is soluble in 81 parts water at 20° and in 25 parts at 80°. It is easily soluble in alcohol and in 5.7 parts of dry pure ether it dissolves to a colorless solution. In wet ether it is 4 times as soluble, producing a yellowish solution. (Pharm. Française, edit. 1908.)

Aqueous solutions dye organic matter such as silk, wool and skin a characteristic yellow, but do not dye vegetable fibre.

1 part picric acid dissolved in 9 parts water at 60° C. and a warm solution of 2 parts potassium cyanide in 4 parts water when mixed give a red color. This solution on being cooled yields reddish brown plates of potassium picrocyanin or isopurpuric acid $C_8H_4KN_5O_6$.

Ammonium sulphide produces a red color in solutions of picric acid which becomes deeper on heating. (Pharm. Française, edit. 1908.)

The absence of salts of picric acid is demonstrated by its *complete solubility in ether. (Pharm. Française, edit. 1908.)*

Action and Uses.—Picric acid is an irritant to the skin and mucous membrane. Taken internally, it may produce nausea, vomiting and diarrhea. The urine has a yellow or red color and may show signs of nephritis. The skin and mucous membrane may be stained yellow simulating jaundice. Red blood cells are partly dissolved and the white cells are increased in number. It is said to be a very useful application for burns, but the application has been said to be painful in certain cases. Toxic symptoms have been produced in some instances, especially in children, by absorption through the skin.

Dosage.—0.025 to 0.1 Gm. (½ to 2 grains). A solution containing 6 parts of picric acid, 60 parts of alcohol to 1,000 parts of water has been recommended for local application.

PHLORIDZIN — Phloridzinum. — Phlorizin. — A glucoside, $C_{21}H_{24}O_{10} + 2H_2O$, from the root of the apple, pear, cherry, etc.

Phloridzin occurs as minute white slightly pinkish crystals, of a silky texture, or as a pale yellow light crystalline powder, odorless and having a bitter but later a sweet taste. It is sparingly soluble in cold but freely soluble in hot water, from which it crystallizes on cooling. It is soluble in alcohol (1-4) and sparingly soluble in ether. The solutions are lævogyrate. At 100° C. (212° F.) it loses water and at 107° C. (224.6° F.) melts. When heated to 130° C. (266° F.) it becomes solid again and then melts again at 17° (338° F.). At 200° (392° F.) it assumes a red color, due to the formation of rufin.

Boiled with dilute acids it is converted into sugar, phlorose and phloretine. Exposed to air in the presence of ammonia it assumes a purple color. Cold concentrated sulphuric acid dissolves it to a yellow solution and at 25°-30° C. (77°-122° F.) it becomes red.

Action and Uses.—Phloridzin destroys malarial parasites. When administered to man or animals, it produces glycosuria of renal origin. Polyuria is also produced. It has been recommended as an antiperiodic in malaria, but its use is not justified in view of the possible injury to the kidney which it may cause. It is used as a means of testing the functional activity of the kidney.

Dosage.—To test the permeability of the kidney 0.005 Gm. (1-12 grain) is dissolved in 1 Cc. (15 minims) of a 0.5 per cent. solution of sodium carbonate and injected hypodermically. Glucose should appear in the urine in from 15 minutes to one-half hour and the secretion of sugar should continue for from two to four hours. The test gains in diagnostic value if the urine of each kidney is collected separately. Phloridzin may be given per os in pills massed with glucose syrup or suspended in a mixture with acacia or tragacanth. The internal dose is 0.3 to 0.6 Gm. (5 to 10 grains).

UREA.—Urea, $CO(NH_2)_2 = CH_4ON_2$, is the diamide of carbonic acid.

Urea occurs as colorless transparent prismatic crystals almost odorless having a cooling saline taste. It is somewhat hygroscopic. It is soluble in water (1-1), more readily in hot water. Soluble in alcohol (1-7) and (1-1) in boiling alcohol. It is insoluble in ether and chloroform. It fuses at 132° C. (269.6° F.), evolving ammonia and ammonium cyanate. Kept at 150° C. (302° F.) for some time most of it is converted to biuret. If the temperature is raised to 170° C. (338° F.) the biuret evolves ammonia and is converted to cyanuric acid. Heated with water under pressure it is decomposed into ammonium carbonate. It is not alkaline but is a weak base and though a diamide, forms salts like a monacid base; these are acid to litmus. By hydrolysis it is converted into ammonia and carbon dioxide. Nitric and oxalic acids produce precipitates when added to concentrated solutions of urea.

Action and Uses.—Urea is an active diuretic; it is rapidly eliminated and is not poisonous. It has been claimed, without convincing proof, to have the power of dissolving urinary calculi. It has been recommended in the treatment of tuberculosis, but this use of it is generally being abandoned. It may be employed where diuresis is indicated, though it appears irrational in primary renal disease.

Dosage.—0.5 to 4 Gms. (10 to 60 grains). Urea is given in solution, or it may be enclosed in cachets.

(To be continued)

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[*For other information see second page following reading matter*]

SATURDAY, JULY 3, 1909

FURTHER STUDIES ON ANAPHYLAXIS

There has just been issued a bulletin entitled "Further Studies on the Phenomenon of Anaphylaxis,"[1] which is the fourth bulletin issued by the Public Health and Marine-Hospital Service on this subject. It will be recalled that the first publication in English dealing with the phenomenon of anaphylaxis was issued by that service in 1906,[2] and the above-mentioned bulletin is a continuation of these studies.

Rosenau and Anderson have devoted themselves largely to studies of the intimate nature of the factors that make up the phenomenon of anaphylaxis, subordinating for the time being the more or less unprofitable discussion of the theory of its mechanism. In their last publication they endeavored to determine what practical use there would be, in the prevention of anaphylaxis, in the administration of various hypnotics; and for this work they used urethane, paraldehyd, chloral and magnesium sulphate, but found that none of these substances had any influence on the fatal outcome of anaphylaxis.

In order to determine whether the effect of heat in modifying the anaphylactic properties of proteins depends on its rendering the proteins insoluble, rather than on any chemical changes it may have wrought, the authors had recourse to a very ingenious experiment. This was, first, to dry the proteins, then to heat them to the desired temperatures, redissolve them and test them for their anaphylactic properties. It was found that horse serum and egg-white, when dried and then heated, would stand a temperature of 130 C. for two hours or 170 C. for ten minutes without appreciably modifying the anaphylactic properties of the respective proteins. These experiments seem to confirm the authors' suggestions as to the way in which heat acts in modifying the anaphylactic properties of proteins.

They present preliminary evidence that there are antibodies concerned in the mechanism of anaphylaxis. It was found that, by mixing the blood serum of a sensitive guinea-pig with normal horse serum, apparently the toxicity of the horse serum was decidedly increased for sensitive guinea-pigs. The authors report that, on a test of the susceptibility of a guinea-pig that had received its first injection of serum 1,096 days before, it was found that the animal was still extremely sensitive; from which they conclude that guinea-pigs probably retain their susceptibility during their entire life.

These studies, as is the case with the previous studies of Rosenau and Anderson on the same subject, are characterized by minute attention to detail and caution in drawing conclusions on the limited data. As the authors themselves state, caution must be observed in work on anaphylaxis in drawing conclusions from limited data, because of our lack of knowledge of the principles involved.

LAY MOVEMENTS FOR THE IMPROVEMENT OF PUBLIC HEALTH

The initiative long ago taken by the medical profession of the United States in behalf of the public health and a national bureau of public health is at last receiving gratifying support from the laity. The fact that medical societies are to-day holding open meetings to which the people are invited, not only to listen but to participate in the discussion of the great health problems of to-day, is probably the greatest factor in public enlightenment on this question. In a number of states the public health administration is organized with reference not only to its executive value, but also to its educational worth to the people. In several states the county health officers are called in annual convention, sometimes called "schools," for the serious study of hygienic questions and for their discussion with the people. In view of this sort of activity it can not be otherwise than that a reflex influence should set in; or, in other words, that the people themselves should begin to take the initiative.

The most conspicuous example of this sort of movement was originated something like two years ago as the result of a paper that Professor J. Pease Norton read before the American Association for the Advancement of Science. This resulted in the organization of the now well-known Committee of One Hundred on National Health, with Professor Norton as executive secretary. The personnel of this committee is probably as influential in molding public sentiment as any that could be selected. It is far reaching in its influence, which is made all the more extensive through its official publication, *American Health*. The example set before the country by Professor Norton may be well emulated by others, and the National Committee of One Hundred might well be imitated in every state. There is, indeed, no reason why state, and, for that matter, county committees, might not be organized in confederation with the now existing national committee. This movement is already well advanced in Ohio under the management of Mr. Ben LaBree, Jr., as state organizer, acting under the auspices of the original Committee of One Hundred. If this plan is carried out, the resulting influence will be great beyond present foretelling.

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[1] Rosenau, M. J., and Anderson, John F.: Further Studies on the Phenomenon of Anaphylaxis, Bull. Hyg. Lab. No. 50, U. S. P. H. and M.-H. S., Washington, April, 1909.

[2] Rosenau, M. J., and Anderson, John F.: A Study of the Cause of Sudden Death Following the Injection of Horse Serum, Bull. Hyg. Lab. No. 29, U. S. P. H. and M.-H. S., Washington, 1906.

Further action along this same line was taken at the Atlantic City Session of the American Medical Association when, on June 10, the House of Delegates passed two important resolutions. One of these was addressed to all county medical societies, requesting each of them to hold at least one open meeting each year, to which the public should be invited as active participants and which should be devoted to the consideration of public-health problems. The execution of this resolution rests with the Bureau of Medical Legislation and an active campaign will be at once inaugurated for the purpose of carrying out its purpose. The other resolution was one requesting the women physicians, members of the American Medical Association, to institute and conduct a similar campaign through the avenue of the women's clubs, mothers' associations and similar organizations. The fact that the execution of this resolution has been placed in the hands of an influential committee under the chairmanship of Dr. Rosalie Slaughter Morton, of New York, and of which Dr. Lillian K. South, of Kentucky, is one of the other officers, is a presage of large and beneficial results.

PARALYSIS OF THE LEFT RECURRENT LARYNGEAL NERVE DUE TO MITRAL STENOSIS

The change of voice and production of the so-called "brassy" or "goose" cough dependent on paralysis of the left recurrent laryngeal nerve is usually attributed to the pressure of a thoracic tumor. Indeed, such an adductor paralysis has been considered almost pathognomonic of aortic aneurism, particularly if associated with cyanosis and attacks of dyspnea. But other tumors in the mediastinum may cause similar pressure palsies of this nerve. Among other causes now recognized may be mentioned atheroma of the aorta, tuberculosis of the apex of the lung, thickened pleura in the same region, and calcified peribronchial glands. Osler has recently laid stress on paralysis of the left recurrent laryngeal nerve in cases of mitral stenosis. The confusion possible with thoracic aneurism can be imagined when the picture is known to include paroxysms of dyspnea, cyanosis, the "cracked" voice, and a paralysis of the vocal cord shown by the laryngoscope, together with a visible pulsation in the second left intercostal space close to the sternum. Ortner was the first to point these facts out. His first case of laryngeal paralysis and unequal carotid pulses was shown at autopsy to have a mitral stenosis and compression of the left recurrent nerve between the aorta and a considerably dilated left auricle. This compression has been found in other cases to be due to enlarged pulmonary veins, and in Fischauer's case to the left branch of the pulmonary artery. Of course, such a paralysis as that which occurs in diphtheria must be ruled out. One of Osler's patients gave a history of diphtheria, but the diagnosis was made clear by the fact that the change in voice antedated the diphtheria. The importance of keeping in mind mitral stenosis as a possible cause of laryngeal paralysis must be emphasized. *The first of Osler's cases was diagnosed as aneurism* plus a mitral lesion by no less an authority than the late Professor Nothnagel.

THE CARROLL FUND COMPLETED

It will gratify all to learn of the completion of the fund for a home for the wife of Major Carroll of yellow-fever fame. Major Ireland, of the medical corps of the Army, who so kindly assumed charge of the receiving of remittances, announces that the contributions now in his hands are sufficient to pay off the entire indebtedness on the property and leave a small balance. Further contributions for this fund are, therefore, unnecessary. The committee is to be congratulated on the able and rapid manner in which it has raised this amount, and the profession at large, and others, are to be thanked for the manner in which they generously and promptly responded to the appeal for contributions. The success of this undertaking is an evidence of the honor and esteem in which Dr. Carroll's memory is held for his self-sacrifice which led indirectly to his fatal affliction. In suffering himself to be bitten by yellow-fever mosquitoes as one of the necessary steps in solving the problem of that disease, Dr. Carroll merely followed what seemed to him to be in the line of duty. But history inscribes his name among the heroes and martyrs, and enrolls among his debtors not only his profession and science, but also commerce, his nation and the whole world.

MEETING OF THE NORTHWEST MEDICAL SOCIETIES

The fact that all roads in the Northwest lead to Seattle because of the Alaska-Yukon-Pacific Exposition has facilitated the arrangement of a notable medical convention there. The medical associations of British Columbia, Idaho, Washington and Oregon are all to be concentrated in Seattle, July 20-23. In the order named, these are the tenth, seventeenth, twentieth and thirty-fifth annual meetings of these bodies. Part of the programs naturally are separate, and part are united.

We congratulate the northwest physicians on their taking advantage of this opportunity and hope that a most pleasant and profitable session will result.

Blood and Thunder.—Last Thursday was the one-hundred and thirty-fourth anniversary of the Battle of Bunker Hill It was celebrated so vigorously in Boston that 119 persons were treated in Boston hospitals for injuries received from fireworks at the celebration. This, however, is but a prelude and a sample of what will happen on next Fourth of July. Criminal penalties and civil suits for damages should follow such destructive patriotism.—*Christian Advocate*, N. Y., June 24.

Medical News

MAINE

Graduation.—At the annual graduation exercises of the Medical School of Maine, Brunswick, a class of 19 was graduated.

Personal.—Dr. Edwin A. Porter has been appointed U. S. pension examining surgeon at Skowhegan.——Dr. Garcelon has been elected chairman of the Lewiston Board of Health.——Drs. Franklin A. Ferguson, Byron F. Barker, Robert H. Donnell and Langdon T. Snipe compose the new attending staff of the Bath Hospital.——Dr. Jacob L. Horr has been elected chairman of the Westbrook Board of Health.

Medical Society Meetings.—The fifty-seventh annual session of the Maine Medical Association was held in Portland June 16 and 17. The following officers were elected: President, Dr. Galen M. Woodcock, Bangor; vice-presidents, Drs. Stanley P. Warren, Portland, and Stephen E. Webber, Calais; secretary, Dr. W. Bean Moulton, Portland; treasurer, Dr. Edwin W. Gehring, Portland; delegate to the American Medical Association, Dr. Alfred D. Sawyer, Fort Fairfield; necrologist, Dr. James A. Spalding, Portland; and councilors: First district, Dr. George B. Swasey, Portland; second district, Dr. Herman L. Bartlett, Norway; third district, Dr. George H. Coombs, Waldobouri; fourth district, Dr. George R. Campbell, Augusta; fifth district, Dr. Eben H. Bennett, Lubec, and sixth district, Dr. Ralph H. Marsh, Guilford.——At the meeting of Kennebec County Medical Association, held in Waterville May 26, the standard constitution and by-laws was adopted.——At the annual meeting of Aroostook County Medical Society, held in Houlton, June 1, the following officers were elected: President, Dr. Sherman W. Boone, Presque Isle; vice-president, Dr. Charles E. Thomas, Caribou; secretary, Dr. Frank H. Jackson, Houlton; treasurer, Dr. Wiley E. Sincock, Caribou, and censors, Drs. Charles E. Thomas, Caribou, Frank Kilburn, Presque Isle, and Francis O. Hill, Monticello.

MARYLAND

Baltimore

Released.—After serving eight years and four months of a ten years' sentence, Dr. George C. Worthington, convicted of manslaughter in 1900, for alleged illegal operation, has been released from the Maryland Penitentiary.

Fund for Physicians' Widows.—Wives of physicians of Baltimore met June 4, at the building of the Medical and Chirurgical Faculty of Maryland and discussed plans for raising a fund to aid the widows and orphans of physicians. Dr. Eugene F. Cordell described the work undertaken and emphasized the urgency of the need. It is planned to buy a country home in the suburbs and to raise a fund of about $100.000.

MASSACHUSETTS

State Society Election.—At the one hundred and twenty-eighth annual meeting of the Massachusetts Medical Society, held in Boston June 15 and 16, the following officers were elected: Dr. Silas D. Presbrey, Taunton, president (re-elected); Dr. Joseph G. Pinkham, Lynn, vice-president; Dr. Walter L. Burrage, Boston, secretary, vice Dr. Francis W. Goss, Boston, who had served as secretary for thirty-four years and declined re-election; Dr. Edward [illegible]on, treasurer (re-elected), and Dr. Edwi[illegible] librarian (re-elected). A report of the [illegible] ar in The Journal.

NEW JERSEY

Against Tuberculosis.—At the annual meeting of the State Association for the Prevention and Relief of Tuberculosis, held in Newark May 20, the following physicians were elected officers: President, Dr. Gordon K. Dickinson, Jersey City; vice-presidents, Drs. William Gray Schauffler, Lakewood, and William H. Murray, Plainfield; executive committee, Drs. Gordon K. Dickinson, Jersey City; William H. Murray, Plainfield; Benjamin Van D. Hedges, Plainfield, James A. Exton, Arlington, and Theodore W. Corwin, Newark; directors, Drs. Philip Marvel, Atlantic City; George B. Philhower, Nutley; William E. Ramsey, Perth Amboy, and Addison B. Poland, Newark.

Personal.—Dr. John W. Wade has been elected president and Dr. H. Garrett Miller, vice-president, of the Millville board of health.——Lieutenant Colonel William G. Schauffler, Lakewood, medical inspector N. G. N. J., has been appointed aide-de-camp on the staff of the governor.——Dr. Henry O. Carhart, Blairstown, collector of Warren county, was seriously injured in a runaway accident near Blairstown, June 18.——Dr. J. Wellington Crane, Newark, has been appointed prison physician, vice Dr. Samuel F. Stanger, deceased.——Dr. Herman C. H. Herold, president of the board of health of Newark, and internal revenue collector, is reported to be seriously ill at his home.

NEW YORK

Personal.—Dr. Willis G. McDonald, Albany, has been made a member of the State Board of Medical Examiners, and Dr. William S. Ely, Rochester, has been reappointed a member of the board.

Alumni Election.—The Alumni Association of Syracuse College of Medicine held its annual dinner and election June 7. Dr. Frederick Flaherty, Syracuse, was elected president; Dr. Alfred W. Armstrong, Canandaigua, vice-president; Dr. William D. Alsever, Syracuse, secretary, and Dr. A. Clifford Mercer, Syracuse, treasurer.

Blackwell Society Election.—The Blackwell Medical Society, Rochester, held its annual meeting in Williamson, June 17, the guests of Dr. Anna Lapp, and the following officers were elected: Dr. M. May Allen, president; Dr. Kathleen L. Buck, vice-president; Dr. May Nickerson, secretary; Dr. Ida M. Porter, treasurer, and Drs. Evelyn Baldwin and Cornelia White-Thomas, councilors.

Sanatorium for Brookhaven.—Dr. Eugene H. Porter, State Commissioner of Health, has given his approval to the application of the committee on tuberculosis of the Brooklyn Central Labor Union for permission to establish a camp and sanatorium for the treatment of tuberculosis in Brookhaven. This is the first application passed upon since the enactment of the new law providing that state instead of local authorities shall pass upon these applications. The local authorities last year refused to permit the establishment of this institution.

Tuberculosis Sanatoria Opposed.—A hearing was held recently before Dr. Eugene H. Porter in Patchogue, L. I., on the proposal to establish a tuberculosis sanatorium near Medford. Certain citizens of Brookhaven vehemently oppose the plan to erect a sanitarium in their neighborhood. Two years ago an application was made for such an institution, but had to be withdrawn because of public clamor. It is believed that Dr. Porter will not withhold his consent if adequate financial support is assured.——It is rumored that the question of the appropriation of $1,000,000 for the proposed tuberculosis hospital in Richmond, Staten Island, has become a political issue, and will figure largely in the coming election of a Borough president.

New York City

Leaves Estate to Hospital.—The will of Edward O. Kindberg leaves his estate, valued at more than $50,000, to the Presbyterian Hospital.

Anesthetist Wanted.—The Medical Board of St. John's Hospital, Brooklyn, announces that the position of visiting anesthetist is vacant. Applications for this position should be addressed to Frank Henry Knight, Secretary of the Medical Board, Albany and Atlantic avenues.

Ferry Boat for Tuberculosis Fight.—Miss Mary Harriman has presented one of the Erie ferry boats to the Brooklyn Committee on the Prevention of Tuberculosis and the Brooklyn Red Cross Society. Attendants and physicians will be provided for the boat, which will be used as a day camp for tuberculosis patients.

Commencement.—The first annual commencement exercises of Fordham University School of Medicine were held June 9, when a class of 11 was graduated. The rectorial address was given by Rev. Daniel S. Quinn, S. J., president of the university, and the address to the graduates was made by Dr. James J. Walsh, dean of the school.

Post-Graduate School Profits by Hewitt Will.—The will of Frederic Charles Hewitt of Owego has been admitted to probate and according to its terms, the Post-Graduate Medical School and Hospital will receive $2,000,000, and the Free Industrial School for Crippled Children and the Sheltering Arms Society of New York will each receive $200,000.

Personal.—Drs. Henry W. Frauenthal, Arthur R. Green and Francis Delafield have sailed for Europe.——Dr. Walter Bensel has been appointed by President Taft to be first lieutenant in the medical reserve corps of the United States Army.——Dr. William H. Park has been appointed a member of the Board of State Medical Examiners to succeed Dr. Floyd M. Crandall.

East Side Tuberculosis Exhibition.—This exhibition is being held at the Educational Alliance, East Broadway and Jefferson street, and will continue until July 1. Isador Stras presided at the opening meeting, and Commissioner Robert

W. Hebberd of the Department of Charities and Dr. Samuel A. Knopf spoke. Both Yiddish and English lectures have been arranged for every evening.

Asks Children to Make Less Noise.—William H. Maxwell, superintendent of schools, has written a letter which he has asked the principals of the various schools to read to the chilren, asking that during vacation they refrain from making noise near hospitals or houses where they know someone is sick, and asking especially that they should not explode any fireworks near a hospital on the Fourth of July.

Board of Ambulance Service Named.—Mayor McClellan has appointed Nathan Bijur and Harold Pratt as the two citizen members of the new Board of Ambulance Service which was authorized by the last legislature to provide new regulations for the control of the ambulance service of this city. The other members of the board are the police commissioner, the commissioner of charities and the president of the board of trustees of Bellevue and Allied hospitals.

Open Convalescent Home.—The Children's Aid Society has just opened the Chappaqua Convalescent Home in Westchester county, with accommodation for 200 crippled children. This institution was made possible by the gift of $500,000 by Mrs. A. A. Anderson. The mothers are also taken where it is not advisable to separate the children from them. The same society has also opened a new ward in the Coney Island Health Home. Last year 985 women and 2,173 children were cared for at this institution.

Hospital Alumni Elections.—The Alumni Society of the New York Skin and Cancer Hospital has elected the following officers: President, Dr. Jerome Kingsbury; vice-presidents, Meara, professor of therapeutics and clinical medicine; Dr. Fred Wise, and treasurer, Dr. H. A. Pulsford.——The Society of Ex-Internes of the Jewish Hospital, Brooklyn, was recently organized and the following officers were elected: President, Dr. William F. Bozenhardt; vice-president, Dr. August G. Horstman; secretary, Dr. Joshua Ronsheim, and treasurer, Dr. William Lintz.

New Professors Announced.—At the June meeting of the Cornell Board of Trustees, the following faculty appointments were made for the medical department: Dr. Frank Sherman Meara, professor of therapeutics and clinical medicine; Dr. Charles N. B. Camac, professor of clinical medicine; Dr. William J. Elser, professor of bacteriology; Dr. John A. Hartwell, professor of clinical surgery; Dr. William B. Coley, professor of clinical surgery; Dr. Silas P. Beebe, assistant professor of experimental therapeutics, and Dr. John R. Murlin, assistant professor of physiology.

Work Among the Crippled.—The People's University Extension Society carried on twenty-three classes for the physical training of crippled children last year with an enrolment of over 350 pupils, and 96 free classes in manual and domestic training had an enrolment of about 900 crippled children. There were also 24 free classes for mentally defective children. Crippled and blind men and women from 60 to 80 years old were members of some of the adult classes. The annual report of the society gives details of more than 1,100 classes, having an enrolment of about 19,000 pupils.

Fighting Sale of Cocain.—William J. Schiefflin, president of Schiefflin & Co., wholesale chemists, warmly endorses the stand taken by Commissioner Bingham in urging on the chairman of the Senate Finance Committee the importance of placing a prohibitive tariff on cocain. In his letter to the Finance Committee, Commissioner Bingham states that there are at least 63 drug stores in this city which are suspected of carrying on the illicit sale of cocain. A prohibitory tariff would confine the sales to the American producer. With these measures the sale of cocain in the United States would be cut in half, the abuse of the drug would be checked and the hands of the druggist would be clean.——A druggist recently arrested by Board of Health detectives on the charge of selling cocain, pleaded guilty, and was sentenced to imprisonment for one year in the pentitentiary.

NORTH CAROLINA

Pellagra.—Drs. Robert H. Bellamy and Edward J. Wood, Wilmington, are doing extensive work in the investigation of pellagra. They have found 17 cases of the disease in New Hanover county.

Hospital Dedicated.—The Episcopal bishop of North Carolina formally dedicated at Raleigh on May 26, the new St. Agnes Hospital for Colored Patients. It is a substantially built structure of modern type, with accommodation for sixty patients.——The cornerstone of the Thompson Sanatorium, Troy, was laid with proper ceremonies, May 27.

State Society Election.—At the fifty-sixth annual meeting of the Medical Society of the State of North Carolina in Asheville, June 15-17, the following officers were elected: President, Dr. James A. Burroughs, Asheville; vice-presidents, Drs. Edward J. Wood, Wilmington; John Q. Myers, North Wilkesboro, and Lacy D. Wharton, Smithfield; secretary, Dr. David A. Stanton, High Point (re-elected); treasurer, Dr. Herbert D. Walker, Elizabeth City; orator, Dr. Cyrus Thompson, Jacksonville; essayist, Dr. R. V. Walker, Salisbury; delegate to the American Medical Association, Dr. Thomas E. W. Brown, Asheville, and alternate, Dr. James V. McGougan, Fayetteville. Wrightsville Beach was chosen as placce of meeting for 1910.

OHIO

Victims of the Law.—For selling drugs without being a registered pharmacist, J. A. Vincent, Cleveland, is said to have been fined $20 each on four counts, the State Board of Pharmacists conducting the prosecution.——G. T. Dimm, Fostoria, found guilty of practicing medicine without a license, is said to have been sentenced to imprisonment for ninety days in the Seneca county jail, and to pay a fine of $50 and costs, June 2. The jury recommended that the sentence be suspended so long as the defendant refrained from practice.——In the case of Dr. Norman M. Geer, Cleveland, said to have been sentenced to four years' imprisonment in the penitentiary on the charge of performing an illegal operation, the circuit court reversed the decision of the lower court and the defendant was released from jail. An attempt will, it is said, be made to retry the defendant.

Cincinnati

The Eichberg Fund.—Dr. Nathaniel P. Dandridge has reported to the Cincinnati Academy of Medicine that the Joseph Eichberg fund for the establishment of a memorial chair of physiology in the medical department of the University of Cincinnati, now amounts to $45,000. Before the actual acceptance and transfer of this money can take place, it will be necessary for the academy to become an incorporated body.

PENNSYLVANIA

New State Antitoxin Stations.—The state health commissioner has established a number of new antitoxin stations. This addition increases the number of distributing stations in the state to 633.

State Medical Examinations.—The annual spring examinations of the State Medical Examining Board were held in Philadelphia and Pittsburg, June 22-25. There were 270 men examined in Philadelphia and about one-third that number in Pittsburg.

Railroad Casualties.—According to statistics compiled by the State Railroad Commission, the forty-four street railways in the state, during the quarter ended March 31, killed 37 persons and injured 765 others. Six of the killed and 56 of the injured were children not more than 15 years. The greatest number of persons killed was in Philadelphia. The highest number of injuries was on the Pittsburg company's lines, the non-fatal accidents being 311.

Hospitals and Sanatoria.—The state department of health has opened a dispensary for tuberculosis at Wilkinsburg, in charge of Dr. James M. McNall. The dispensary will furnish free medical treatment and advice to poor tuberculosis patients of Allegheny county, and they will be supplied with fresh eggs and milk daily.——Hazelton Society for the Prevention of Tuberculosis has begun negotiations for the acquisition of five acres of ground near the State Hospital, on which to erect a sanatorium.——The contract for the erection of a group of buildings at South Mountain Sanatorium, Mount Alto, has been awarded for about $50,000.——The cornerstone of the Philadelphia Jewish Sanatorium for Consumptives, Eagleville, was laid with appropriate ceremonies June 13. The site is about four miles north of Valley Forge and contains seventy acres. The proposed plans include a mess hall 30x80 feet, an infirmary of the same dimensions, four shacks each 16x40 feet and two sun parlors, each 16x75 feet. The institution will cost about $50,000, and will accommodate 150 patients.——The cornerstone of the Mid-Valley Hospital, Blakely, was laid May 31. The main building of the hospital is to be 65x106 feet and a ward building on either side 39x85 feet. The hospital will accommodate 41 patients.

Philadelphia

Personal.—Dr. John S. Sharp has been appointed visiting physician to the Bryn Mawr Hospital.——Drs. Morris Longstreth, William G. Moore and George F. Nickerson have sailed for Europe.

Contagious Hospital Receives Patients.—The first transfer of patients from the old Municipal Hospital to the new institution was effected June 25, when the scarlet fever patients, numbering 181, were taken to the new building. The remainder of the inmates of the old hospital have now been removed to the new institution.

Heat Mortality.—Philadelphia was one of the hottest cities in the United States during the past week, the maximum daily temperature ranging from 90 to 94. June 21-26 is recorded as the hottest period between those dates in the history of the local weather bureau. Deaths from the heat up to midnight June 26, aggregated 22.

Hospital Buys Site.—The Pennsylvania Hospital has purchased the property at 724 Spruce street for about $20,000. The property is on a lot 24 feet 9 inches by 250 feet. The Pennsylvania Hospital now owns all but one piece of property in the block opposite to its present buildings, and when the growth of the institution demands it, the site will be utilized as annexes to the hospital.

Bequests.—The will of the late Mrs. Julia Grey Dayton contains a bequest of $7,000 to the Hospital of the University of Pennsylvania, to endow a free bed in the surgical department as a memorial to her husband, William C. Dayton.——The will of the late William J. McAllister bequeaths $10,000 to the Orange Home of Hatboro, Pa., $3,000 to the Presbyterian Hospital, and $5,200 to the Presbyterian Hospital to endow a free bed to be known as the William J. McAllister bed.

WASHINGTON

New Medical Board.—The newly organized State Board of Medical Examiners met for organization June 1, and elected the following officers: President, Dr. Frank P. Witter, Spokane; vice-president, Dr. Edward J. Taggart, Bremerton; secretary, J. Clinton McFadden, Seattle; and treasurer, Dr. George H. Dow, Chehalis.

New Marriage Statute.—Under the provisions of the new marriage laws which went into effect June 10, issuance of marriage licenses is prohibited to persons suffering from tuberculosis in advanced stages, or from several other contagious diseases, and to habitual criminals and drunkards. The law provides that applicants must undergo medical examination, excepting where the woman is 45 years of age or over.

GENERAL NEWS AND COMMENT

Hospital Authorities to Meet.—The eleventh annual conference of the American Hospital Association will be held in Washington, September 21-24.

Spanish Edition of Pharmacopeia.—The Spanish edition of the United States Pharmacopeia, to which reference has been made elsewhere, will be sold at retail at the following prices, fixed by its Board of Trustees: for the cloth binding, $5; cloth binding, interleaved, $6; sheep binding, $5.50; sheep binding, interleaved, $6.50; flexible leather binding, $6. Erroneous prices have been given by some other publications; the above are official.

Inspection of Viruses.—Radical changes in the regulation governing the sales of viruses, serums and toxins, and analogous products, have been made by a board, consisting of the surgeons general of the Army, Navy and Public Health and Marine-Hospital Service. Under the new regulation, an unannounced inspection is to be made at least once a year of all establishments making serums and viruses, and licenses are to be issued only after inspection and examination of the products.

Protection of Public Health.—Application has been made for a certificate of incorporation for the National Association for the Protection of Public Health, whose objects are to promote among the people of the United States a better understanding of the laws of health and sanitation, to disseminate proper and accurate information to this end in order that the national health shall be improved without referring to any special interests that may be damaged thereby. The directors of the association are Dr. Henry W. Frauenthal, Campbell MacCulloch and Dr. William R. Hitchcock, all of New York City.

Personal.—Medical Director John C. Wise, U. S. Navy, sailed for Europe, June 19, as representative of the government to the International Antitubercular Congress at Stockholm, July 8-10, to the International Scientific Congress on Leprosy at Bergen, August 16-19, and to the International Medical Congress, Budapest.——Surgeon Frank L. Pleadwell, U. S. Navy, sailed for Europe June 19, and will represent the government at the second International Conference for the Revision of Nomenclature of Diseases and Causes of Death, at Paris, July 1-3, and at the twelfth International Congress on Alcoholism to be held in London July 18-24.——The degree of D.Sc. has been conferred by Brown University on Col. William C. Gorgas, Medical Department, U. S. Army, chief sanitary officer of the Canal Zone.

Elections.—At the twelfth annual meeting of the Association of the Medical Officers of the Army and Navy of the Confederacy, held in Memphis, June 9, 10 and 11, Dr. Gustavus B. Thornton, Memphis, was elected president, and Dr. Edwin D. Newton, Atlanta, Ga., secretary. The association will meet next year in Mobile, Ala.——At the fifth annual meeting of Atlantic Coast Line Railway Surgeons, held in Wilmington, N. C., the following officers were elected: President, Dr. James H. Pittman, Jacksonville, Fla.; vice-presidents, Drs. William H. H. Cobb, Goldsboro, N. C., Alexander M. Brailsford, Mullins, S. C., and John M. Spence, Camilla, Ga., and secretary-treasurer, Dr. Charles P. Aimar, Charleston, S. C. (re-elected).——On the occasion of the fourth annual meeting of the New England Alumni Association of the Baltimore Medical College, held in Boston, June 16, the following officers were elected: President, Dr. Henry J. Keaney, Everett, Mass.; vice-president, Dr. Thomas J. Dougherty, Somersworth, N. H.; state vice-president, Drs. Lawrence E. Willard, Saco, Maine; William E. Lawrence, North Haverhill, N. H.; E. R. Lynch, Brattleboro, Vt.; James F. Cuddy, Athol, Mass.; C. B. O'Rourke, Providence, R. I.; and George M. Burroughs, Danielson, Conn.; secretary, Dr. Charles S. Gilman, Boston, and treasurer, Dr. Thomas B. Alexander, Scituate Harbor, Mass.

Physicians of Northwest to Meet.—The first meeting of the Medical Associations of the Pacific Northwest, which includes those of British Columbia, Idaho, Oregon and Washington, will be held in Broadway High School, Seattle, July 20-23. At this time the tenth annual meeting of the British Columbia Medical Association, the seventeenth annual meeting of the Idaho State Medical Association, the twentieth annual meeting of the Washington State Medical Association, and the thirty-fifth annual meeting of the Oregon State Medical Association will be held. July 21 has been set aside as medical day at the Alaska-Yukon-Pacific Exposition, and on the 22d an excursion to the Navy Yard at Bremerton has been arranged for. The wives of the visiting physicians will be entertained by the King County Medical Society and the Medical Women's Club. On the first day executive sessions will be held by the various component associations. In the afternoon there will be a general session, over which Dr. Clarence A. Smith, Seattle, will preside. Addresses of welcome will be made by Hon. M. A. Hay, governor of Washington, and Hon. John F. Miller, mayor of Seattle. Responses will be given by Dr. Simeon E. Josephi, Portland, on behalf of Oregon; by Dr. R. Eden Walker, New Westminster, on behalf of British Columbia; by Dr. R. L. McCalla, Boise, on behalf of Idaho, and by Dr. Wilson Johnston, Spokane, on behalf of Washington. Addresses will follow by Dr. James B. Herrick, Chicago, on "General Infections and Metastatic Lesions Due to Gonococci;" by Dr. Roswell Park, Buffalo, N. Y., on the "Relation of Internal Secretions to Surgical Diseases," and by Hon. A. W. Frater, Seattle, on the "State Care of the Insane." On the first afternoon, the secretaries of the county societies will meet. A general session on "Tuberculosis" will be held on the afternoon of July 22, under the auspices of the Washington Association for the Prevention and Relief of Tuberculosis, and one in the evening on "Public Health and Sanitation," under the auspices of the Pacific Coast Public Health Association. The work of the component associations will be undertaken in four sections—surgery, medicine, ophthalmology and otolaryngology, and urology.

The Carroll Fund Completed.—It is a pleasure to announce the raising of the amount which was needed to complete the payment of the mortgage, interest, taxes, etc., on the house which Major Carroll purchased for his family shortly before his death. Lists of contributions have been published from time to time in The Journal since April 1, when the committee began its work. The receipt of these funds has been under the charge of Major M. W. Ireland of the Surgeon-General's office of the War Department, Washington, D. C. The following contributions have not been previously acknowledged:

Medical Officers, U. S. Army	$ 10.00
Houghton County Medical Society, Calumet, Mich	10.00
State Medical Association of Texas	100.00
Santa Barbara County Medical Society, Cal	8.00
Dr. Hermann G. Klotz, New York City	3.00
Orleans Parish Medical Society, New Orleans, La., et al.	1,248.50

Contributed as follows:

Visiting Staff of Touro Infirmary	$160.00
Physicians other than Touro Infirmary	250.00
United Fruit Company	100.00
New Orleans Progressive Union	50.00
S. Pfeiffer & Co	10.00
R. B. Scudder & Co	5.00
New Orleans Picayune	25.00

New Orleans Furniture Manufacturing Co.	5.00	
A. B. Griswold & Co.	10.00	
Vaccaro Bros. & Co.	25.00	
"N"	1.00	
James J. Reiss Company	5.00	
Seaboard Refining Company	5.00	
"M.D."	2.00	
I. L. Lyons & Co.	10.00	
Leon Godchaux Clothing Co.	2.00	
"Cash"	1.00	
New Orleans Cotton Exchange	165.00	
B. F. Glover & Son	25.00	
Smith Brothers Co.	10.00	
A. M. & J. Solari	5.00	
Bluefields Steamship Co.	25.00	
Penick & Ford Co., Ltd.	10.00	
Isidore Newman & Son	25.00	
D. H. Holmes Co.	10.00	
J. B. Camors	10.00	
H. Guenard	2.00	
S. A. Cosulich	5.00	
A. K. Miller & Co.	5.00	
National Rice Milling Co.	10.00	
W. G. Coyle & Co.	10.00	
W. W. Carre Co.	5.00	
Ruddock Cypress Co.	10.00	
E. C. Palmer & Co.	25.00	
Stauffer, Eshleman & Co.	10.00	
Louisiana Bankers Association	100.00	
New Orleans Railway & Light Co.	10.00	
Louisiana Glass & Mirror Works	5.00	
Southern Pacific Co. (Atlantic Steamship Line).	100.00	
Sixty-fifth Regiment, N. G. N. Y., Buffalo, N. Y.		50.00
Coos and Curry County Medical Society of Oregon, Marshfield, Oregon		10.00
Dr. Seldom B. Overlock, Pomfret, Conn.		2.00
Dr. Nathan Mayer, Hartford, Conn.		1.00
B. McKee, San Francisco		5.00
Dr. Frank K. Hallock, Cromwell, Conn.		5.00
Total		$1,452.50

FOREIGN

The Fifth International Congress for Obstetrics and Gynecology.—The Russians are again making an effort to hold this international gathering in their land, the authorities having given their consent and approval to invite the congress to meet at St. Petersburg in September, 1910. The last congress had been invited there, but conditions were too unsettled at the time appointed and the congress was held elsewhere.

Compulsory Education in Spain.—The Spanish parliament has recently passed a law making education compulsory for children, with penalties for parents who do not send their children to school, and disqualifying all who do not learn to read and write from participation in state privileges which others enjoy. The *Siglo Medico* comments joyfully that this bill was introduced and its adoption secured by a member of the medical profession, C. M. Cortezo, who is a senator and one of the three editors of our esteemed Madrid exchange.

Recent Honors in Memory of Members of the Profession.—A memorial to Kussmaul was unveiled at Freiburg, May 15, with much ceremony, and our German exchanges of the first week in June contain views of the bust that surmounts the shaft and the allegorical figure on the base representing the art of healing. A tablet to Auenbrugger, the "father of percussion," has also recently been installed at Vienna, and a large statue of Pettenkofer unveiled at Munich. A memorial to Mikulicz was also unveiled at Breslau, May 27; it stands in front of the clinic he made famous, and the address was delivered by his successor, H. Küttner. In Madrid, also, a tablet was installed in the Colegio de Medicos the same week, to the memory of F. G. Roel, noted in connection with the first description of pellagra. His will is said to be such an interesting document that the Academy of Medicine is to republish it shortly.

The Daniels Souvenir Number of Janus.—The current issue of *Janus* is dedicated to C. E. Daniels, of Amsterdam, on his seventieth birthday. He was one of the four founders, in 1896, of *Janus*, the international archives for the history of medicine and medical geography, and has contributed many articles on the history of medicine, besides founding the medico-pharmaceutic museum at Amsterdam which has attracted so much attention. Daniels has been prominent in the organization of the profession in Holland, serving in various capacities and as chief of the information bureau for medical positions and for the museum of colonial medicine. The souvenir number contains over 250 pages and 20 articles on various historical subjects, including one by D'Arcy Power on "The Fees of Our Ancestors," and another by E. T. Withington on "John Locke as a Medical Practitioner," which states that Locke is the most celebrated man that ever belonged to the medical profession in Great Britain. Another communication cites the Sinclair Letters to the effect that the inventor of the balloon, Montgolfier, gave the credit for his invention to the Scotch chemist, Joseph Black, 1728-1799.

First Russian Congress of Factory Physicians.—This congress was held at Moscow in April, with a large attendance of physicians, manufacturers and delegates from working men's organizations. Among the questions discussed was the advisability of medical examination of the workman when first entering the factory, with a uniform card catalog of the findings; this is in the interests of the workman, to warn him and instruct him in prophylactic measures, and also to collect data for statistics. The labor representatives protested against this measure unless the medical examiner was a state official and not dependent on the manufacturer. The chief topic of interest was cholera, which Bronstein stated is permanently endemic, and "truly deserves the name of Russian cholera." The consensus of opinion was that serotherapy had proved disappointing, and, as there is no specific, palliative measures are the only reliance in treatment, but protective inoculations have demonstrated their efficiency and harmlessness, and were urgently recommended by a number of the medical and other speakers. The cholera germs are found not only in the stool of the patients, but in the blood, bile and urine. Bacteriologic diagnosis is especially necessary in suspicious cases when there is no epidemic prevailing, in atypical affections, and in the convalescents to complete bacteriologic recovery. One speaker stated that protecting serum inoculations reduced the number of cases of cholera to one-fifth. In some of the epidemics all the patients died at first, but later the mortality averaged 42 per cent. An important palliative measure is to keep the patients warm. The full report of the congress is in the *St. Petersburg. med. Wochenschrift*, June 5.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, June 12, 1909.

Fifty Years of Social Progress

The Local Government Board has issued a useful "bluebook" to illustrate in a convenient and readily intelligible form various important matters in the study of social conditions, such as the growth of population, mortality, and public health administration, the changes in the occupation of the people, the recurring periods of industrial prosperity and depression, pauperism and the action of the poor law, local taxation and local debt. While each subject is dealt with as briefly as possible a very complete survey is given of the period covered. By the free use of charts the various movements are shown graphically and the meaning of the huge masses of figures rendered rapidly intelligible. The work is so important that it must become a standard book of reference for all interested in social questions. Indeed it may be doubted if ever such an important body of figures and other information was ever brought together within a moderate compass before. Among the most salient facts of medical interest are the following. The population of the United Kingdom in the middle of 1908 was estimated at 44,500,000; in 1901 it was 41,500,000; in 1851 27,000,000. Thus in the half century between the last two dates the population increased by 51.5 per cent. In the last three decades the number of births in proportion to the population has been decreasing but the number of deaths has also declined though not in the same proportion. The net result is that the annual increase of population shows a slight diminution. In the period 1851-55 the average annual birth rate was 33.9 per 1,000 and the death rate 22.7. The former has steadily fallen to 26.3 in 1907 and the latter to 11.3. This decline of the birth rate is common to most European countries and the curve in this country almost exactly follows that in France and fairly closely that in Prussia and Belgium. The tendency of the population to aggregate in urban areas is shown by the fact that while in 1851 it was almost equally divided between urban and rural areas, in 1901 77 per cent. was urban. The mortality of the rural districts is about 23 per cent. lower than that of the urban districts. With regard to the causes of death the mortality from nearly all the principal diseases has decreased materially in the last 30 years. The most important exceptions are pneumonia, diphtheria, and cancer. Typhoid fever has greatly declined and typhus fever and smallpox have almost completely died out. Scarlet fever also shows a persistently downward curve, while phthisis has steadily diminished.

The Radium Treatment of Cancer

With the foundation of the Radium Institute the eyes of the profession are naturally turned towards the radium treatment of cancer. The lead taken by the French both in the discovery and in the therapeutic use of radium has made them for the time our teachers. The newly-appointed director of the Radium Institute, Captain Pinch, F.R.C.S., has returned from Paris where he has been studying the methods of the radium institute in that city. Its director, Dr. Louis Wickham, has delivered before the dermatologic section of the Royal Society of Medicine a brilliant address on "The Therapeutic Application of Radium to Cancerous and Other Tumors." The address, which was delivered in English, was listened to with great interest and was illustrated by lantern slides. He first showed the destructive power of radium on the tissues by paired pictures of pigmentary and vascular nevi and rodent ulcer. But his main subject was not the destructive power of radium but its apparently specific power of affecting certain diseased tissues without affecting normal tissues. This action had been demonstrated with regard to four conditions—eczema, angioma, keloid and cancer. Its application would arrest such morbid processes, such as deep cancers, without injuring the superficial tissues. But its successful application depended on overcoming great difficulties in estimating accurately the dosage.

Presentation to Mr. Lynn Thomas and Mr. H. Skryme

The occasion of the presentation at Cardiff to Mr. Lynn Thomas and Mr. Skryme of a fund subscribed to defray the heavy costs to which they had been put in consequence of a patient recovering damages from them, principally because they had treated a fracture on lines not laid down in the text-books—without applying a splint—was a remarkable professional function. The case has been fully narrated in previous letters. It was appropriately arranged that the distinguished French surgeon, M. Lucas-Championnière, who is the apostle of the modern treatment of fractures by massage and mobilization and of the discarding of splints should make the presentation. To a crowded meeting of the Cardiff Medical Society he delivered an address on "The Modern Treatment of Fractures," a subject peculiarly his own. The great interest taken in the function was natural. The occasion was felt by the profession to be important for it was vindication of its right of freedom of thought and action.

PARIS LETTER

(From Our Regular Correspondent)

Paris, June 10, 1909.

Comparative Statistics of Population in France in 1908

From the official statistics of the population which have just been published by the ministry of labor, it appears that the situation of France in regard to population has appreciably improved during the last year. In 1907 the number of deaths was 19,920 more than the number of births (The Journal, Oct. 17, 1908, li, 1346). In 1908, on the other hand, an excess of 46,411 births over deaths is reported. This figure is appreciably larger than that of the five-year period from 1902 to 1907, in which the annual average excess of births over deaths was 34,802, but one must acknowledge that it is mainly to a great diminution of the number of deaths that the excess of births during the year 1908 is due. The number of deaths, in fact, was less by 48,266 than the corresponding number in 1907, while from the one year to the other, the number of births has increased only by 18,067. In 1908 there were 791,712 births in place of 773,645 in 1907. In spite of the slight increase of births recorded last year, the years 1907 and 1908 are the only ones since the beginning of the nineteenth century which have furnished fewer than 800,000 infants born alive. The number of births registered in 1908 remains less by 15,135 than the corresponding figure of 1906, and less by 48,131 than the annual average of the decennial period 1896 to 1905.

As for the number of deaths, it continues to decrease, thanks to the progress of hygiene and to the spread of comfort and well-being. There were recorded last year 745,271 deaths, a figure less by 31,108 than the annual average of the decennial period 1896 to 1905. The number of deaths per 10,000 inhabitants fell last year to 190, the lowest proportion recorded in France since the beginning of the nineteenth century. The relative increase of the population, the annual average of which was 18 per 10,000 inhabitants from 1901 to 1905, fell to 7 per 10,000 in 1906, and gave place in 1907 to a diminution of 5 per 10,000. It has gone up during the year 1908 to 12 per 10,000.

It would be, however, a mistake to believe that the improvement mentioned for the last year was general for the population of the whole of France. There were only 45 departments, those of the regions of the north, of Brittany, of the eastern frontier, of the Limousin, and of Corsica, in which the births exceeded the deaths. In the 42 other departments, those in the regions of the Garonne and the Rhône valleys, the deaths were in excess of the births.

In regard to the number of marriages, however, France occupies a front rank. There were recorded during the last year 315,028 marriages. This is the largest number that has been recorded since 1873, in which 321,238 marriages were celebrated. There is an increase of 1,172 by comparison with the corresponding figure for 1907, which was higher by 8,269 than the corresponding number of 1906. The proportion of newly married persons continues to increase; from 153 per 10,000 inhabitants in 1904, it has become 160 in 1907, and 161 during the last year.

The Centenary of Amédée Bonnet

The memory of the illustrious surgeon, Amédée Bonnet, author of well-known works on diseases of the joints and their treatment, on cauterization, etc., was celebrated June 7, at Amberiou in Bugey (a large town of the department of the Ain), in which he was born March 10, 1809; Professor Chauveau, member and delegate from the Academy of Medicine, presided over the ceremony, at which there were a great number of French and foreign physicians, including Professors Boeckel of Strasburg, Reverdin, Girard of Geneva, and Sonnenberg of Berlin. Professor Poncet, who occupies at the College of Medicine of Lyons the chair of clinical surgery, made illustrious by Bonnet (who died at Lyons, Dec. 1, 1858), sketched the work of the great surgeon in an excellent speech.

To Prohibit Sale of Nursing Bottles with Tubes

It is proposed in the senate to forbid the sale of nursing-bottles with tubes, under penalty of a fine of 25 to 100 francs, and, in case of a second offense, of imprisonment of eight days to a month.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 10, 1909.

Campaign Against Infantile Mortality in Germany

On June 4 the Empress Augusta Victoria House for the Repression of Infantile Mortality in the German Empire was opened in Charlottenburg in the presence of the empress, who is the protectress of the institution. This institute owes its existence to the increased effort to oppose the high infant mortality in Germany. In 1907 no fewer than 351,046 children died during the first year of life in Germany and about two-thirds of these died from disturbances of nutrition. If this mortality is compared with that of other countries, there appear distinct differences to the discredit of Germany. In 1906, among 100 children born living, there died during the first year of life: In New Zealand, 6.2; New South Wales, 7.5; South Australia, 7.6; Norway, 8.1; England (1907), 11.8; Holland, 12.7; Switzerland, 12.7; France, 14.3; Germany, 18.5; Hungary, 20.5; European Russia, 27.2.

The increase of population has diminished of late years because the number of births has fallen off. A further reduction of the increase of population can only be prevented by a further reduction of the total mortality. But this can only be reached by reducing the high infantile mortality.

The means for building were contributed mostly by private donations. The city of Charlottenburg gave the land, about three acres, on the occasion of the silver wedding of the imperial pair, the kaiser and empress contributed about $6,000, and collections in the empire have furnished more than $360,000. The functions which have been assumed by the institution are as follows:

1. The practical and scientific investigation of the questions pertaining to the nutrition and care of infants as well as the care of mothers.
2. The collection of data on infantile mortality and on the organization of institutions for the care of infants in the German empire and in other civilized countries.
3. To make the results of scientific and practical investigations available to the public by its publications and to offer information and counsel to officials and to public and private associations as well as private individuals.

In regard to the clinical and scientific studies it is proposed to receive pregnant women months before their expected delivery and retain them and their children in the house for months after delivery for the purpose of constant observation of the physiology and pathology of pregnancy. The healthy children will be kept under supervision after they leave the institution and data regarding the effectiveness of outside care will be collected. In the house there is also a milk kitchen and a stable for milk cows is connected with it so that it is possible to control the production and preparation of the milk and thus assume the entire responsibility for the nutrition of the child. This nutriment will be provided not merely for the children lodged in the house, but also given out in the outside work on the condition that the children are brought to the station in the house. In special rooms an exhibition will be installed which will contain everything to illustrate the hygiene of the child, the nursery, and the lying-in room, both with respect to the family and institutions.

Nursing in the institute is in the hands of sisters who will have assistance from the mothers of the children and also from nurses and midwives who reside in the house for the purpose of training. For the care of 70 children, 10 sisters, 12 "lady nurses," 6 nurses and 6 midwives are provided. The training school has the task of supplying the truly felt want in Germany of nurses capable of caring for children in private houses. Two classes of these nurses are provided for. Women who are to receive training as "lady nurses" must have a mastery of a second modern language in addition to German, and must pay $288 for their education, while the ordinary nurses are required only to make a deposit which is returned to them at the end of their course. The "lady nurse" and nurse take the place of the mother in supervising the bringing up of the child, and hence it is desired when possible that they shall spring from the same social class as the child itself. This is the reason for the distinction in the requirements as to education and the expense of training. In the training itself, which lasts one year, no difference is made between the two classes of nurses. The midwives serving in the institution come directly after passing their examination, for six months to receive a special training in the care of nurslings and their feeding. In this way an intelligent view of the feeding of children will be promulgated by the aid of the midwives. The mothers received into the institute with their children are regularly employed. They are instructed in laundry work and in the making of plain children's clothing and in the care and feeding of the children. In this way the mothers are prepared to spread intelligent views regarding the feeding of children in their own circles after their discharge. The children discharged from the house are permanently kept under observation. As may be seen, the institute has laid out an extraordinarily extensive program, and there is reason to expect that under proper management it will give valuable service.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, June 9, 1909.

Breach of Professional Secrecy

A remarkable case of breach of professional secrecy has recently been brought into court and the result is most interesting to both laymen and physicians. The facts, briefly stated, were the following: A married woman, occupied in a country postoffice, contracted syphilis extragenitally. The physician whom she consulted did not at once recognize the nature of the disease, but, on arriving at the diagnosis, he cautioned the patient, giving her instructions to prevent the transmission of the disease to others. But as she neglected his cautions, the physician notified the postmaster-general of the patient's disease. Rumors soon spread in the village; the woman was dismissed from her post and later on was shunned by society. In the proceedings resulting from the action of the wronged patient, the physician was acquitted with the comment that "the accused doctor had undoubtedly acted in public defence, for by his action the danger threatening the community from the neglectful behavior of the patient was averted." It is the first instance in which voluntary breach of professional secrecy has not been punished in this country.

Lately several similar occurrences have taken place, but with the significant difference that the physician was asked by legal authority, and thus had to disclose his patient's disease. In an instance much spoken of lately, Prof. von Zeissl was treating a railway man for syphilis, who by neglect, in spite of a caution by the doctor, infected his two children, who went to school. As there was imminent danger of the playmates and fellow pupils of these two also falling victims to infection, von Zeissl brought it about by prudent medication, that the managing board of the school put an official question to him, backed by a forensic command; to this he replied that the children were suffering from an infectious contagious disease; these children were then refused admission to school until they brought a certificate of health from him. Much comment has been raised by the publication of these cases, and it must be stated that the majority of the profession still holds the opinion that the physician must stand by his patient whatever public interests are concerned. It is really a question of moral feeling. The proposed, but not yet accepted, new *Aerzte-Ordnung* (medical regulation) recommends the course of action adopted by the two physicians mentioned above.

Legislation Against Alcoholism

The congresses repeatedly held against alcohol and other factors have resulted in a bill to regulate the drink habit by reducing the number of places were alcohol is sold and bringing the number of public houses and the number of inhabitants into relation. The business hours of the retail dealers will be reduced to ten per day. No automatic appliances for the sale of alcoholic beverages are to be allowed. An important feature is the provision that debts contracted for alcohol drinking shall not be valid (the majority of drunkards drink on credit). Serious crimes committed by drunken persons have increased lately. Therefore the bill provides for the punishment of an intoxicated criminal, not for the crime, but for the intoxication. Repeated intoxication within one year in public is punishable by imprisonment of one to thirty days, or by a fine of 10 to 500 crowns ($2 to $100). The sale of alcoholic beverages to persons already under influence of alcohol is also punishable.

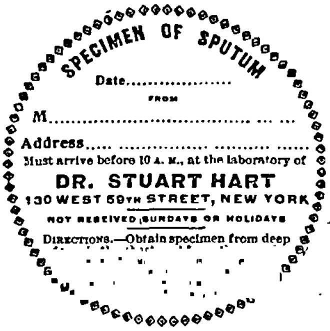
A Sanitarium for Physicians in Marienbad

A local medical club in Marienbad and Franzenblad has been formed to enable the profession to erect in these important health resorts a sanitarium for diseased practitioners. Physicians from Austria and Germany will be accommodated free of charge; others will have to pay a small sum for lodging and food, while baths and other therapeutic procedures will be free to them. Gout, rheumatism, obesity and cardiac disease are the chief indications for these health resorts, and it is known that doctors often suffer from them.

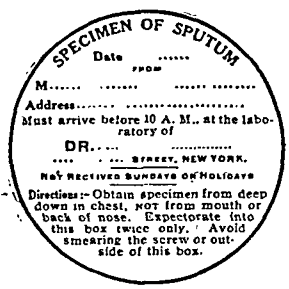
Correspondence

Sputum Boxes—A Protest

To the Editor:—I wish to call attention to a method by which a manufacturer endeavors to turn to his own exclusive advantage a device that originally was freely and without reserve placed at the disposal of physicians and the community at large. In the *Medical Record*, New York, Aug. 20, 1898, p. 287, I described a wooden container for the collection of sputum for laboratory examination which has since that time been in general use by health boards, sanatoria, laboratory workers and physicians and has been actually distributed to the number of several hundred thousands. I have never had any pecuniary interest in the manufacture, sale or distribution of these boxes, and my only desire in regard to them has been that they should be well made and available at a reasonable price to all to whom they might be of service. It is needless to say that I have never attempted to secure a patent on the box, and its use has been placed without restriction at the disposal of the community at large.


SPECIMEN OF SPUTUM
Date....................
FROM
M..
Address.......................................
Must arrive before 10 A. M., at the laboratory of
DR. STUART HART
130 WEST 59TH STREET, NEW YORK
NOT RECEIVED SUNDAYS OR HOLIDAYS
DIRECTIONS.—Obtain specimen from deep

1. Form of label used for eight years on Hart's sputum boxes.


SPECIMEN OF SPUTUM
Date ......
FROM
M......
Address.......
Must arrive before 10 A. M., at the laboratory of
DR.....
STREET, NEW YORK.
NOT RECEIVED SUNDAYS OR HOLIDAYS
Directions:—Obtain specimen from deep down in chest, NOT from mouth or back of nose. Expectorate into this box twice only. Avoid smearing the screw or outside of this box.

2. Form of label proposed in Gibson's recent circular.

At this point enters one Richard Gibson, who appears in the field as a manufacturer of sputum boxes. A recent circular put out by this gentleman, while not actually asserting originality, allows it to be implied not only by lack of mention of the fact that the sputum box as designed by me has been in use generally for ten years, but also by announcing in large type that he has applied for a patent. The very trivial alteration which he has made in the form of the original box will certainly not secure a patent for him, but by the use of the phrase, "patent applied for," he doubtless hopes to secure for his personal advantage a device which has long since been made the property of the public.

The unblushing effrontery of the implication of originality is attested not only by the similarity of the shape and construction of the boxes, but also by a comparison of the wording, spacing and style of type selected for the labels and of which I present samples.

There is no reason why Mr. Gibson or any one else should not manufacture, sell or use these boxes, but the attempt to secure a patent on the ideas of another which have been public property for many years, and the use of a motto, "patent applied for," in order to scare off others from the free production of these boxes is to my mind, and I believe the medical profession at large will agree with me, an encroachment of commercialism which should not pass unheeded.

T. Stuart Hart, New York City.

130 West 59th Street.

Mental Treatment by Physicians

To the Editor:—It is time for the medical profession and the ministry thoroughly to awake to the fact that Eddyism has spread because it in some measure satisfies a want. There is beneath its superstructure of falsity a fundamental truth, the power of faith, which draws people to it with the promise of cure. Some appreciative representatives of the Episcopal Church invented the Emmanuel movement as a cure for the evil of so-called "Christian Science," but the cure, to be successful, is too much like the disease. Its method of application, also, is too complex. The economic principle of the division of labor, whereby an individual's body is treated by a physician and his mind by a minister is not in this case conducive to thoroughness and effectiveness. It is, furthermore, supposititious and false to think that the clergy are by nature and calling better able to treat the mind than are other men. Although ministers as a body have studied mental science, only comparatively few of them are qualified to treat mental conditions. The number of medical men thus qualified is not great.

The idea is rather prevalent that all forms of mental treatment are fakes. Of course, many of them are. But in our own individual mental spheres do we all resign ourselves unreservedly to the theories of determinism, even of fatalism? Do we not practice mental treatment on ourselves by controlling, to greater or lesser degree, our mental content and our actions? Do we not unquestionably influence, also, the mental condition of others? And do we not voluntarily allow our mental condition to be influenced in varying degrees by others?

The fake cure cults, especially "Christian Science," are filled with people who are mentally sick. Any doctor who attends one of their experience meetings will be appalled by the chimerical and delusional character of their stories. They find relief in the suggestion that belief in the non-existence of their trouble makes it non-existent, be the complaint in the spiritual or material sphere. The idea works, of course, within a much smaller scope than they claim.

Now, there can be no question that the mind acts on the body, that the body reacts on the mind, and, as now especially concerns us, that the mind acts on the mind. Is it not illogical, therefore, that the treatment of the mental and of the physical aspects of life should be carried out by two different professions? Every physician should realize that his duty is to examine and to treat the whole being, mind as well as body. Most cases that require mental treatment require at the same time some form of medical treatment and supervision, and should, therefore, be under the care of one who is capable of attending the whole being. The practice of medicine should extend into the mental life of ailing humanity. Not only so-called physical pain, but also mental discomfort and deviation should bring the patient to the doctor. The intimate relation thus established would increase the influence and dignity of our profession, and enhance the well-being of humanity. Then would be restored to the profession the attribute of sanctity which was in earlier days regarded as inherent to it, and this sanctity would rest on a firm scientific basis. To these ends the medical colleges should require their students to be familiar with psychology, ethics, logic, the principles of philosophy, and psychiatry.

But how shall the need of people for religious exercise be supplied if they are to receive mental treatment from physicians? "Christian Science" and, to a great extent, the Emmanuel movement combine religion with mental treatment and, in fact, their treatment may be said to consist largely of the practice of religion, thus opening the mind to new influence. If in attempting to remove the existing evils, we are, as we should be, scientific, let us be so consistently scientific as to be religious and to advise patients to practice religion. Religion is an instinct, the exercise of which yields mental benefits. For example, the first product of a sincere, devout prayer made with concentrated thought is a frame of mind that will prepare one for the thing expected. Every person, be he savage or civilized, has the instinct of religion. And every mind, normal or pathologic, should modify itself with the benign influence of some rational, honest, sincere religion, for it is often the sheet-anchor of personality.

George Edward Barnes, M.D., Herkimer, N. Y.

The Combined Course for the Degrees of A.B. or B.S. and M.D.

To the Editor:—The ideas advanced by Dr. J. M. Dodson in The Journal, May 22, on a combined course leading to the degree of B.A. or B.S., with M.D., are in the right direction. The four years of college work after the high school should include medical subjects for the student intending to study medicine; this preparation should be credited toward his B.A. or B.S. degree. The student should be allowed to take a final examination on his medical studies before the state boards when he has finished the college course, and should receive credit for them.

The universities and colleges, when properly equipped, can give the first two years of the medical course as well as the average medical college or better. The course should comprise the study of anatomy with the dissection of the human body, chemistry, physiology, pathology, embryology and bacteriology. The instruction, always as practical as possible, should continue throughout the entire year with short intermissions every three or four months. I would divide the profession into physicians, surgeons, oculists and dentists; I would arrange courses of study to meet the needs of each division and would graduate the student into one or another of these four divisions. Dentists are graduated as specialists now; oculists might be; but in both cases the arrangement of studies can not be entirely satisfactory, as students are required to spend, on studies useless to them, time which might be better spent in practical work. The work of surgeons and physicians is more closely related, but still presents great differences.

The suggested arrangement of studies would not prevent a student from graduating in more than one class of the profession, but would encourage a more thorough preparation in the special line chosen. The practice of permitting the recent graduate in general medicine to treat the severe cases of the eye or ear or to perform difficult operations in surgery without more special preparation has tended to discredit the profession and to harm the patient. We are trying to teach too much for thoroughness, and to force all students to one standard without regard to natural ability; we attain only a smattering in much and perfection in nothing. The fields of surgery and pathology have increased greatly in recent years and bacteriology is a new study. Our present system of education, formerly sufficient to the demands of the times, is based on conditions now antiquated or obsolete. Medicine now is too large a field for any one to be proficient in all its departments.

John Binnie, Poynette, Wis.

Reorganization of State Charities in Illinois

To the Editor:—In the report of the Committee on Medical Legislation of the American Medical Association at the Atlantic City session, I notice the following from Illinois: "A most excellent bill reorganizing the state charitable, eleemosynary and corrective institutions and placing them all in the hands of a state board of administration, was introduced, but failed to become a law." The measure above referred to, after having been previously passed by the House, passed the Senate during the last night of the session, and has since been signed by the governor. The board created by this act is to be non-partisan and to consist of five members, but will not have control over corrective institutions.

L. C. Taylor, Springfield, Ill.

Chairman Committee on Medical Legislation, Illinois Medical Society.

A Misquotation from Bishop Fallows Acknowledged

To the Editor:—In an article entitled, "The General Practitioner and the Functional Nervous Diseases," published in The Journal (Jan. 9, 1909, lii, 87) I quoted some sentences from "Health and Happiness" by Samuel Fallows, D.D. These sentences were taken from the New York *Evening Sun*, in which they appeared in quotation marks. Bishop Fallows has written to me to say that the sentences making up the quotation are taken from various portions of his book; that is, they are taken out of the proper context. I regret that I did not verify the quotation before the article was published.

Joseph Collins, New York.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DISPOSAL OF GARBAGE AND FILTRATION OF WATER-SUPPLY

To the Editor:—Please tell me where I can obtain any information, applicable to a city of 30,000 inhabitants, in regard (1) to modern methods of garbage disposal, and (2) to city filtration of water-supply.

Albert N. Mueller,
City Health Commissioner, Rock Island, Ill.

Answer.—1. Modern methods of garbage disposal are clearly described in two papers in the *Transactions of the American Public Health Association* for 1901 (Vol. xxvii). These are "Refuse Disposal in Boston," by H. W. Hill, p. 186, and "Refuse Disposal in the District of Columbia," by W. C. Woodward, p. 194. An especially valuable summary also appears in the same publication for 1903 (Vol. xxix), entitled "Some Statistics of Garbage Disposal for the Larger American Cities in 1902," by C-E. A. Winslow and P. Hansen. The last named paper gives valuable data regarding cost in this country and abroad, a bibliography of 27 titles, and a classified list of cities using different processes (further information could doubtless be obtained from the municipal authorities if desired). The facts stated in the papers cited seem to justify the conclusion, "that separation of waste materials is neither economical nor desirable, that the cremation of mixed refuse appears to be the most generally satisfactory process and that this cremation may be best accomplished in furnaces of the English type."

2. Three of the best books in English on water filtration are "The Filtration of Water-Supplies," by Allen Hazen, "Clear Water and How to Get It," by the same author, and "Water and Its Purification," by Samuel Rideal. The two first-named are published by John Wiley and Sons, the last by J. B. Lippincott; all are procurable through your local booksellers.

STEREOSCOPY WITHOUT A STEREOSCOPE

To the Editor:—It occurred to me that stereoscopic illustrations of steps in operative procedures, tumors, etc., could be more generally used than they are now. I have noticed that, with only a little practice, one can get the stereoscopic effect from a stereoscopic illustration, without the use of a stereoscope. Hold the stereogram before the eyes at a distance of 12 to 26 inches; look at the white perpendicular line up the middle; gazing not too fixedly at this line, endeavor to lose your accommodation, when, if you persist, a dissolving effect takes place and the single object stands out clear in perspective. The use of such illustrations in our journals and surgical works has many obvious advantages and will appeal to every scientific and sound-eyed physician. This is merely a practical application of an old physiologic fact.

Ivan I. Yoder, M.D., Cleveland, Ohio.

THE CAMMIDGE REACTION

To the Editor:—Please give information in regard to the pancreatic reaction of Cammidge. R. H. Miner, Windsor, Vt.

Answer.—The pancreatic reaction of Cammidge was described in The Journal, Aug. 22, 1908, li, 691. Opinions are still divided as to its clinical value, although the bulk of evidence is in favor of the view that, while it is not pathognomonic, it is a valuable diagnostic aid.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, for the week ended June 26, 1909.

Schmitter, Ferdinand, 1st lieut., ordered to St. Louis, Mo., for temporary duty in charge of the Medical Supply Depot.

Truby, Albert E., major, ordered to take charge of chief surgeon's office, San Francisco, Cal., during the absence of Major James M. Kennedy on inspection tour.

Dale, Frederick A., capt., granted leave of absence for 14 days.

Foster, Charles L., capt., ordered from San Francisco, Cal., to Washington, D. C., in charge of an escort to insane patients.

Perley, Harry O., col., announced as chief surgeon, Department of the Colorado; ordered to inspect posts in that department.

Kiersted, Henry S., capt., granted leave of absence for 1 month.

Chamberlain, Weston P., major, detailed a member of the board of medical officers for studying tropical diseases in Philippine Islands.

Foster, Charles L., capt., granted leave of absence to July 6.

O'Day, Sylvester F., 1st lieut., M.R.C., honorably discharged from the service of the United States, his services being no longer required.

Buchsbaum, Maurice, 1st lieut., M.R.C., ordered to duty with troops marching from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., instead of 1st Lieut. Joseph E. Bastion, M.R.C.

Tyler, George T., 1st lieut., M.R.C., relieved from duty at Plattsburg Barracks, N. Y.; will proceed to Seattle, Wash., in time to sail August 5th for the Philippine Islands.

Kierluff, H. Newton, 1st lieut., M.R.C., ordered to Fort Snelling, Minn., July 2, for temporary duty.

McMillan, Clemons W., 1st lieut., M.R.C., granted leave of absence for 2 months, August 20.

Fisk, Owen C., 1st lieut., M.R.C., ordered to Fort Michie, N. Y., for temporary duty during the week beginning July 12.

McCown, Thomas B., 1st lieut., M.R.C., ordered to Fort Duchesne, Utah, for temporary duty during the week beginning July 12.

Pomeroy, William H., contract surgeon, granted leave of absence for 21 days.

Graig, Emmett J., dent.-surg., ordered to Fort Des Moines, Iowa, for 1 month, and thence to Fort Riley, Kan. for 3 months.

Ryan, Edward P. R., dent.-surg., ordered to Fort Mackenzie, Wyo. for 20 days, and thence to Fort D. A. Russell, Wyo. for 2 months.

Boak, S. Davis, dent.-surg., ordered from Vancouver Barracks, Wash., to Fort Lawton, Wash., for duty.

Voorhies, Hugh G., dent.-surg., relieved from duty at Fort Snelling, Minn., and ordered to Jefferson Barracks, Mo., for duty.

Ames, John R., dent.-surg., relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Snelling, Minn., for duty.

Whinnery, Jean C., dent.-surg., arrived at Fort Egbert, Alaska, for duty.

Navy Changes

Changes in Medical Corps, U. S. Navy, for the week ended June 26, 1909:

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Johnson, M. K., surgeon, detached from the Naval Training Station, Narragansett Bay, R. I., July 10 and ordered to the *South Dakota*.

Von Wedekind, L. L., surgeon, detached from the *South Dakota* and ordered home to await orders.

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Robnett, A. H., asst.-surgeon, ordered to duty at Naval Hospital, Boston.

Steadman, W. G., asst.-surgeon, detached from the *Louisiana* and ordered to continue treatment at the Naval Hospital, Norfolk, Va.

Reed, A. U., asst.-surgeon, ordered to Naval Recruiting Station, Chattanooga, Tenn.

Cohn, I. F., asst.-surgeon, ordered to duty at the Naval Hospital, Philadelphia.

Woods, E. L., asst.-surgeon, ordered to duty at the Naval Hospital, Annapolis, Md.

Olson, G. M., asst.-surgeon, ordered to the Naval Recruiting Station, Minneapolis.

Shippen, L. P., asst.-surgeon, detached from the Naval Recruiting Station, Minneapolis, and ordered to the Navy Yard, Mare Island, Cal.

Giltner, H. A., asst.-surgeon, detached from the Naval Training Station, San Francisco, and ordered to the *Glacier*.

Eytinge, E. O. J., asst.-surgeon, ordered to the *Wolverine*.

Riker, C. A., asst.-surgeon, detached from the *Franklin* and ordered to the *Louisiana*.

Thomas, G. E., acting asst.-surgeon, detached from duty at the Naval Hospital, Norfolk, Va., and ordered to the *Franklin*.

Wheeler, L. H., P. A. surgeon, detached from the *Hancock* and ordered to the *Marietta*, sailing from New York, N. Y., about June 24.

Brister, J. M., P. A. surgeon, detached from the *Milwaukee* and ordered to the *Independence*.

Jenness, B. F., P. A. surgeon, detached from the *Glacier* and ordered to the Milwaukee and to additional duty at the Naval Hospital, Puget Sound, Wash.

The unblushing effrontery of the implication of originality is attested not only by the similarity of the shape and construction of the boxes, but also by a comparison of the wording, spacing and style of type selected for the labels and of which I present samples.

There is no reason why Mr. Gibson or any one else should not manufacture, sell or use these boxes, but the attempt to secure a patent on the ideas of another which have been public property for many years, and the use of a motto, "patent applied for," in order to scare off others from the free production of these boxes is to my mind, and I believe the medical profession at large will agree with me, an encroachment of commercialism which should not pass unheeded.

T. Stuart Hart, New York City.

130 West 59th Street.

Mental Treatment by Physicians

To the Editor:—It is time for the medical profession and the ministry thoroughly to awake to the fact that Eddyism has spread because it in some measure satisfies a want. There is beneath its superstructure of falsity a fundamental truth, the power of faith, which draws people to it with the promise of cure. Some appreciative representatives of the Episcopal Church invented the Emmanuel movement as a cure for the evil of so-called "Christian Science," but the cure, to be successful, is too much like the disease. Its method of application, also, is too complex. The economic principle of the division of labor, whereby an individual's body is treated by a physician and his mind by a minister is not in this case conducive to thoroughness and effectiveness. It is, furthermore, supposititious and false to think that the clergy are by nature and calling better able to treat the mind than are other men. Although ministers as a body have studied mental science, only comparatively few of them are qualified to treat mental conditions. The number of medical men thus qualified is not great.

The idea is rather prevalent that all forms of mental treatment are fakes. Of course, many of them are. But in our own individual mental spheres do we all resign ourselves unreservedly to the theories of determinism, even of fatalism? Do we not practice mental treatment on ourselves by controlling, to greater or lesser degree, our mental content and our actions? Do we not unquestionably influence, also, the mental condition of others? And do we not voluntarily allow our mental condition to be influenced in varying degrees by others?

The fake cure cults, especially "Christian Science," are filled with people who are mentally sick. Any doctor who attends one of their experience meetings will be appalled by the chimerical and delusional character of their stories. They find relief in the suggestion that belief in the non-existence of their trouble makes it non-existent, be the complaint in the spiritual or material sphere. The idea works, of course, within a much smaller scope than they claim.

Now, there can be no question that the mind acts on the body, that the body reacts on the mind, and, as now especially concerns us, that the mind acts on the mind. Is it not illogical, therefore, that the treatment of the mental and of the physical aspects of life should be carried out by two different professions? Every physician should realize that his duty is to examine and to treat the whole being, mind as well as body. Most cases that require mental treatment require at the same time some form of medical treatment and supervision, and should, therefore, be under the care of one who is capable of attending the whole being. The practice of medicine should extend into the mental life of ailing humanity. Not only so-called physical pain, but also mental discomfort and deviation should bring the patient to the doctor. The intimate relation thus established would increase the influence and dignity of our profession, and enhance the well-being of humanity. Then would be restored to the profession the attribute of sanctity which was in earlier days regarded as inherent to it, and this sanctity would rest on a firm scientific basis. To these ends the medical colleges should require their students to be familiar with psychology, ethics, logic, the principles of philosophy, and psychiatry.

But how shall the need of people for religious exercise be supplied if they are to receive mental treatment from physicians? "Christian Science" and, to a great extent, the Emmanuel movement combine religion with mental treatment and, in fact, their treatment may be said to consist largely of the practice of religion, thus opening the mind to new influence. If in attempting to remove the existing evils, we are, as we should be, scientific, let us be so consistently scientific as to be religious and to advise patients to practice religion. Religion is an instinct, the exercise of which yields mental benefits. For example, the first product of a sincere, devout prayer made with concentrated thought is a frame of mind that will prepare one for the thing expected. Every person, be he savage or civilized, has the instinct of religion. And every mind, normal or pathologic, should modify itself with the benign influence of some rational, honest, sincere religion, for it is often the sheet-anchor of personality.

George Edward Barnes, M.D., Herkimer, N. Y.

The Combined Course for the Degrees of A.B. or B.S. and M.D.

To the Editor:—The ideas advanced by Dr. J. M. Dodson in The Journal, May 22, on a combined course leading to the degree of B.A. or B.S., with M.D., are in the right direction. The four years of college work after the high school should include medical subjects for the student intending to study medicine; this preparation should be credited toward his B.A. or B.S. degree. The student should be allowed to take a final examination on his medical studies before the state boards when he has finished the college course, and should receive credit for them.

The universities and colleges, when properly equipped, can give the first two years of the medical course as well as the average medical college or better. The course should comprise the study of anatomy with the dissection of the human body, chemistry, physiology, pathology, embryology and bacteriology. The instruction, always as practical as possible, should continue throughout the entire year with short intermissions every three or four months. I would divide the profession into physicians, surgeons, oculists and dentists; I would arrange courses of study to meet the needs of each division and would graduate the student into one or another of these four divisions. Dentists are graduated as specialists now; oculists might be; but in both cases the arrangement of studies can not be entirely satisfactory, as students are required to spend, on studies useless to them, time which might be better spent in practical work. The work of surgeons and physicians is more closely related, but still presents great differences.

The suggested arrangement of studies would not prevent a student from graduating in more than one class of the profession, but would encourage a more thorough preparation in the special line chosen. The practice of permitting the recent graduate in general medicine to treat the severe cases of the eye or ear or to perform difficult operations in surgery without more special preparation has tended to discredit the profession and to harm the patient. We are trying to teach too much for thoroughness, and to force all students to one standard without regard to natural ability; we attain only a smattering in much and perfection in nothing. The fields of surgery and pathology have increased greatly in recent years and bacteriology is a new study. Our present system of education, formerly sufficient to the demands of the times, is based on conditions now antiquated or obsolete. Medicine now is too large a field for any one to be proficient in all its departments.

John Binnie, Poynette, Wis.

Reorganization of State Charities in Illinois

To the Editor:—In the report of the Committee on Medical Legislation of the American Medical Association at the Atlantic City session, I notice the following from Illinois: "A most excellent bill reorganizing the state charitable, eleemosynary and corrective institutions and placing them all in the hands of a state board of administration, was introduced, but failed to become a law." The measure above referred to, after having been previously passed by the House, passed the Senate during the last night of the session, and has since been signed by the governor. The board created by this act is to be non-partisan and to consist of five members, but will not have control over corrective institutions.

L. C. TAYLOR, Springfield, Ill.

Chairman Committee on Medical Legislation, Illinois Medical Society.

A Misquotation from Bishop Fallows Acknowledged

To the Editor:—In an article entitled, "The General Practitioner and the Functional Nervous Diseases," published in THE JOURNAL (Jan. 9, 1909, lii, 87) I quoted some sentences from "Health and Happiness" by Samuel Fallows, D.D. These sentences were taken from the New York *Evening Sun*, in which they appeared in quotation marks. Bishop Fallows has written to me to say that the sentences making up the quotation are taken from various portions of his book; that is, they are taken out of the proper context. I regret that I did not verify the quotation before the article was published.

JOSEPH COLLINS, New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DISPOSAL OF GARBAGE AND FILTRATION OF WATER-SUPPLY

To the Editor:—Please tell me where I can obtain any information, applicable to a city of 30,000 inhabitants, in regard (1) to modern methods of garbage disposal, and (2) to city filtration of water-supply.

ALBERT N. MUELLER,
City Health Commissioner, Rock Island, Ill.

ANSWER.—1. Modern methods of garbage disposal are clearly described in two papers in the *Transactions of the American Public Health Association* for 1901 (Vol. xxvii). These are "Refuse Disposal in Boston," by H. W. Hill, p. 186, and "Refuse Disposal in the District of Columbia," by W. C. Woodward, p. 194. An especially valuable summary also appears in the same publication for 1903 (Vol. xxix), entitled "Some Statistics of Garbage Disposal for the Larger American Cities in 1902," by C-E. A. Winslow and P. Hansen. The last named paper gives valuable data regarding cost in this country and abroad, a bibliography of 27 titles, and a classified list of cities using different processes (further information could doubtless be obtained from the municipal authorities if desired). The facts stated in the papers cited seem to justify the conclusion, "that separation of waste materials is neither economical nor desirable, that the cremation of mixed refuse appears to be the most generally satisfactory process and that this cremation may be best accomplished in furnaces of the English type."

2. Three of the best books in English on water filtration are "The Filtration of Water-Supplies," by Allen Hazen, "Clear Water and How to Get It," by the same author, and "Water and Its Purification," by Samuel Rideal. The two first-named are published by John Wiley and Sons, the last by J. B. Lippincott; all are procurable through your local booksellers.

STEREOSCOPY WITHOUT A STEREOSCOPE

To the Editor:—It occurred to me that stereoscopic illustrations of steps in operative procedures, tumors, etc., could be more generally used than they are now. I have noticed that, with only a little practice, one can get the stereoscopic effect from a stereoscopic illustration, without the use of a stereoscope. Hold the stereogram before the eyes at a distance of 12 to 26 inches; look at the white perpendicular line up the middle; gazing not too fixedly at this line, endeavor to lose your accommodation, when, if you persist, a dissolving effect takes place and the single object stands out clear in perspective. The use of such illustrations in our journals and surgical works has many obvious advantages and will appeal to every scientific and sound-eyed physician. This is merely a practical application of an old physiologic fact.

IVAN I. YODER, M.D., Cleveland, Ohio.

THE CAMMIDGE REACTION

To the Editor:—Please give information in regard to the pancreatic reaction of Cammidge. R. H. MINER, Windsor, Vt.

ANSWER.—The pancreatic reaction of Cammidge was described in THE JOURNAL, Aug. 22, 1908, li, 691. Opinions are still divided as to its clinical value, although the bulk of evidence is in favor of the view that, while it is not pathognomonic, it is a valuable diagnostic aid.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, for the week ended June 26, 1909.

Schmitter, Ferdinand, 1st lieut., ordered to St. Louis, Mo., for temporary duty in charge of the Medical Supply Depot.

Truby, Albert E., major, ordered to take charge of chief surgeon's office, San Francisco, Cal., during the absence of Major James M. Kennedy on inspection tour.

Dale, Frederick A., capt., granted leave of absence for 14 days.

Foster, Charles L., capt., ordered from San Francisco, Cal., to Washington, D. C., in charge of an escort to insane patients.

Perley, Harry O., col., announced as chief surgeon, Department of the Colorado; ordered to inspect posts in that department.

Kiersted, Henry S., capt., granted leave of absence for 1 month.

Chamberlain, Weston P., major, detailed a member of the board of medical officers for studying tropical diseases in Philippine Islands.

Foster, Charles L., capt., granted leave of absence to July 6.

O'Day, Sylvester F., 1st lieut., M.R.C., honorably discharged from the service of the United States, his services being no longer required

Buchsbaum, Maurice, 1st lieut., M.R.C., ordered to duty with troops marching from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., instead of 1st Lieut. Joseph E. Bastion, M.R.C.

Tyler, George T., 1st lieut., M.R.C., relieved from duty at Plattsburg Barracks, N. Y.; will proceed to Seattle, Wash., in time to sail August 5th for the Philippine Islands.

Kierluff, H. Newton, 1st lieut., M.R.C., ordered to Fort Snelling, Minn., July 2, for temporary duty.

McMillan, Clemons W., 1st lieut., M.R.C., granted leave of absence for 2 months, August 20.

Fisk, Owen C., 1st lieut., M.R.C., ordered to Fort Michie, N. Y., for temporary duty during the week beginning July 12.

McCown, Thomas B., 1st lieut., M.R.C., ordered to Fort Duchesne, Utah, for temporary duty during the week beginning July 12.

Pomeroy, William H., contract surgeon, granted leave of absence for 21 days.

Graig, Emmett J., dent.-surg., ordered to Fort Des Moines, Iowa, for 1 month, and thence to Fort Riley, Kan. for 3 months.

Ryan, Edward P. R., dent.-surg., ordered to Fort Mackenzie, Wyo. for 20 days, and thence to Fort D. A. Russell, Wyo. for 2 months.

Boak, S. Davis, dent.-surg., ordered from Vancouver Barracks, Wash., to Fort Lawton, Wash., for duty.

Voorhies, Hugh G., dent.-surg., relieved from duty at Fort Snelling, Minn., and ordered to Jefferson Barracks, Mo., for duty.

Ames, John R., dent.-surg., relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Snelling, Minn., for duty.

Whinnery, Jean C., dent.-surg., arrived at Fort Egbert, Alaska, for duty.

Navy Changes

Changes in Medical Corps, U. S. Navy, for the week ended June 26, 1909:

Williams, R. B., surgeon, commissioned surgeon from Dec. 11, 1908.

Kennedy, R. M., surgeon, ordered to command the naval hospital, San Juan, P. R., sailing from New York, N. Y., about July 24.

Johnson, M. K., surgeon, detached from the Naval Training Station, Narragansett Bay, R. I., July 10 and ordered to the *South Dakota*.

Von Wedekind, L. L., surgeon, detached from the *South Dakota* and ordered home to await orders.

Grove, W. B., surgeon, detached from the *Minnesota* and ordered to the Naval Training Station, Narragansett Bay, R. I.

Alfred, A. R., surgeon, detached from the *Wolverine* and ordered to the *Minnesota*.

Dunn, H. A., P. A. surgeon, detached from the *Independence*, ordered home and granted leave for 2 months.

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Reed, A. U., asst.-surgeon, ordered to Naval Recruiting Station, Chattanooga, Tenn.

Cohn, I. F., asst.-surgeon, ordered to duty at the Naval Hospital, Philadelphia.

Woods, E. L., asst.-surgeon, ordered to duty at the Naval Hospital, Annapolis, Md.

Olson, G. M., asst.-surgeon, ordered to the Naval Recruiting Station, Minneapolis.

Shippen, L. P., asst.-surgeon, detached from the Naval Recruiting Station, Minneapolis, and ordered to the Navy Yard, Mare Island, Cal.

Giltner, H. A., asst.-surgeon, detached from the Naval Training Station, San Francisco, and ordered to the *Glacier*.

Eytinge, E. O. J., asst.-surgeon, ordered to the *Wolverine*.

Riker, C. A., asst.-surgeon, detached from the *Franklin* and ordered to the *Louisiana*.

Thomas, G. E., acting asst.-surgeon, detached from duty at the Naval Hospital, Norfolk, Va., and ordered to the *Franklin*.

Wheeler, L. H., P. A. surgeon, detached from the *Hancock* and ordered to the *Marietta*, sailing from New York, N. Y., about June 24.

Brister, J. M., P. A. surgeon, detached from the *Milwaukee* and ordered to the *Independence*.

Jenness, B. F., P. A. surgeon, detached from the *Glacier* and ordered to the Milwaukee and to additional duty at the Naval Hospital, Puget Sound, Wash.

Du Bose, W. R., medical inspector, detached from command of Naval Hospital, Yokohama, Japan, and ordered to Bureau Medicine and Surgery, Navy Department.

Pryor, J. C., surgeon, ordered to command the Naval Hospital, Yokohama, Japan.

Morris, L., surgeon, detached from the Naval Station, Cavite, P. I., and granted leave until September 1.

White, E. C., P. A. surgeon, detached from the Naval Recruiting Station, Cleveland, Ohio, and ordered to temporary duty at the Naval Torpedo Station, Narragansett Bay, R. I.

Gill, J. E., P. A. surgeon, ordered to Naval Recruiting Station, Cleveland, Ohio.

French, G. R. W., acting asst.-surgeon, appointed acting asst.-surgeon from June 18, 1909.

Wilson, H. D., surgeon, detached from the *Illinois* and ordered to continue other duties.

Irvine, W. L., acting asst.-surgeon, ordered to duty at the Naval Hospital, Boston.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended June 23, 1909:

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from June 22, 1909, on account of sickness.

Carrington, P. M., surgeon, directed to proceed to Los Angeles, Cal., on special temporary duty, June 17, 1909. Granted 15 days' leave of absence in July, 1909.

Magruder, G. M., surgeon, granted 23 days' leave of absence from July 9, 1909.

Geddings, H. D., surgeon, on completion of duties enjoined by Bureau order of June 8, 1909, detailed to represent the Service at the International Conference on Tuberculosis to be held in Stockholm, Sweden, July 8-10, 1909. Assigned for duty in the office of the American Consul at Naples, Italy. Directed to proceed to Hamburg and Berlin, Germany, on special temporary duty.

Wertenbaker, C. P., surgeon, detailed to inspect the Bacterio-Therapeutic Laboratory, Asheville, N. C.

Anderson, John F., P. A. surgeon, directed to proceed to Albany and Peekskill, N. Y., on special temporary duty.

Ramus, Carl, P A. surgeon, granted 1 day's leave of absence June 13, 1909, on account of sickness.

McClintic, T. B., P. A. surgeon, on expiration of present leave of absence directed to report to Director of Hygienic Laboratory for temporary duty.

Currie, Donald H., [illegible] to represent the Service at the Second [illegible] gainst Leprosy to be held in Bergen, Norv [illegible]

Holt, John M., passed assistant surgeon, detailed to represent the service at the joint annual meeting of the medical associations of the states of Washington, Oregon and Idaho, to be held in Seattle, Wash., July 20-23, 1909.

Gwyn, M. K., P. A. surgeon, granted 15 days' leave of absence from June 21, 1909.

Collins, G. L., P. A. surgeon, granted 1 day's leave of absence, June 18, 1909, Paragraph 189, Service Regulations.

Friedman, Henry M., acting assistant surgeon, granted 28 days' leave of absence from July 4, 1909.

Gibson, L. P., acting asst.-surgeon, granted 8 days' leave of absence from June 14, 1909.

Houghton, M. W., acting asst.-surgeon, granted 9 days' leave of absence from July 17, 1909.

Mason, Wm. C., acting asst.-surgeon, granted 6 days' leave of absence from June 28, 1909.

Rea, Robert H., acting asst.-surgeon, granted 1 day's leave of absence, June 18, 1909.

Stevenson, J. W., acting asst.-surgeon, granted 4 days, leave of absence from June 22, 1909.

BOARDS CONVENED

Board of medical officers convened to meet at the U. S. Immigration Office, Vancouver, B C., June 12, 1909, for the purpose of examining alien Chee Yu. Detail for the board: Passed Assistant Surgeon M. W. Glover, chairman; Acting Assistant Surgeon H. R. Storrs; Acting Assistant Surgeon Stuart A. Ross, recorder.

Board of medical officers convened to meet at the Bureau June 19, 1909, to determine the fitness of Pharmacist E. B. Scott for promotion to the grade of Pharmacist of Class 1. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Passed Assistant Surgeon J. W. Trask, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended June, 25, 1909:

SMALLPOX—UNITED STATES

California: Stockton, Jan. 1-Feb. 28, 20 cases.

Georgia: Columbus, June 5-12, 1 death; Macon, June 6-13, 5 cases.

Illinois: Danville, June 6-13, 5 cases; Moline, 1 case.

Indiana: Evansville, June 5-12, 1 case; Indianapolis, June 6-13, 1 case; La Fayette, June 7-14, 1 case; South Bend, June 5-12, 15 cases.

Iowa: Council Bluffs, June 7-14, 1 case; Davenport, June 6-13, 2 cases; Sioux City, June 5-12, 1 case.

Kansas: Kansas City, June 5-12, 1 case; Wichita, May 22-29, 5 cases, June 5-12, 2 cases.

[illegible] ne 5-12, 2 cases; Henderson, May 1-31, 2 [illegible] 12, 2 cases.

[illegible] June 5-12, 8 cases.

[illegible] 22-29, 2 cases.

Montana: Butte, June 3-10, 9 cases.

Nebraska: South Omaha, May 15-22, 2 cases.

New York: New York, June 5-12, 1 case.

Ohio: Cincinnati, June 4-11, 3 cases; Cleveland, 1 case; Eaton, to June 15, 1 case; Salineville, April 5-11, 46 cases.

Tennessee: Knoxville, June 5-12, 5 cases.

Texas: El Paso, June 8-15, 1 case; Fort Worth, May 1-31, 21 cases, 2 deaths; Galveston, June 4-11, 1 case; San Antonio, June 5-12, 3 cases.

Utah: Salt Lake City, May 1-31, 56 cases.

Washington: Spokane, May 22-June 5, 6 cases; Tacoma, May 30-June 6, 1 case.

Wisconsin: Marinette, June 5-12, 1 case; Milwaukee, June 7-14, 7 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, April 24-May 1, 8 cases, 1 death.

SMALLPOX—FOREIGN

Brazil: Bahia, April 30-May 7, 5 cases, 3 deaths; Rio de Janeiro, April 25-May 6, 32 cases, 11 deaths; Sao Paulo, April 12-May 2, 8 deaths.

Canada: Halifax, May 30-June 5, 1 case; Vancouver, May 1-31, 6 cases.

China: Hongkong, April 3-May 1, 5 cases, 1 death; Tientsin, May 1-3, 1 case.

Ceylon: Colombo, April 24-May 8, 5 cases.

Egypt: Alexandria, April 1-30, 5 cases, 1 death; Cairo, May 6-13, 4 cases, 2 deaths; Suez, Mar. 25-May 20, 56 cases, 3 deaths.

Great Britain: Bristol, May 22-29, 1 case.

India: Bombay, May 11-18, 11 deaths; Calcutta, May 1-8, 25 deaths; Madras, May 8-14, 2 deaths; Rangoon, May 1-8, 7 deaths.

India-China: Saigon, May 1-8, 6 cases, 2 deaths.

Italy: Genoa, May 1-15, 2 cases; Naples, May 23-30, 17 cases.

Japan: Formosa, May 1-8, 3 cases.

Mexico: Chichupahua, May 31-June 6, 2 cases, 3 deaths; Monterey, April 29-May 6, 3 deaths.

Portugal: Lisbon, April 26-May 2, 3 cases; May 9-16, 6 cases.

Russia: Odessa, May 8-29, 8 cases, 2 deaths; Warsaw, April 3-24, 6 deaths.

Spain: Barcelona, May 24-31, 4 deaths; Valencia, May 15-22, 8 cases; Vigo, May 22-29, 2 deaths.

Turkey: Constantinople, May 16-23, 4 deaths.

YELLOW FEVER

Barbados: Parish, St. Joseph, June 5-12, 3 cases.

Brazil: Bahia, April 30-May 7, 8 cases, 3 deaths; Manaos, May 15-22, 2 deaths.

Cuba: Habana, June 21, 1 case on *S. S. Fürst Bismarck* from Veracruz.

Ecuador: Quayaquil, May 1-22, 21 deaths.

Trinidad: Mar. 27-April 3, 1 case, 1 death.

CHOLERA—INSULAR

Philippine Islands: Provinces, April 24-May 1, 16 cases, 11 deaths.

CHOLERA—FOREIGN

China: Amoy, June 19; Swatow, May 1, present.

India: Bombay, May 11-18, 2 deaths; Calcutta, May 1-8, 68 deaths; Rangoon, 1 death.

Russia: St. Petersburg, May 25-June 1, 5 cases, 4 deaths.

Straits Settlements: Singapore, April 24-May 1, 1 death.

PLAGUE

Brazil: Rio de Janeiro, May 2-9, 1 case.

China: Hongkong, April 3-May 1, 12 cases, 8 deaths; Swatow, April 10-May 15, 2,050 deaths in 14 districts in vicinity.

Ecuador: Guayaquil, May 1-22, 29 deaths.

Egypt: May 13-June 2, 51 cases, 26 deaths.

India: April 24-May 8, 10,353 cases, 8,690 deaths; Bombay, May 11-18, 212 deaths; Calcutta, May 1-8, 255 deaths; Rangoon, 18 deaths.

Indo-China: Saigon, May 1-8, 2 cases, 1 death.

Japan: Formosa, May 1-15, 116 cases, 98 deaths; Yokohama, May 15-22, 2 cases.

Venezuela: Caracas, June 9-17, 5 cases.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, July 5-6. Sec., Dr. Ancil Martin.
Arkansas: Homeopathic, Little Rock, July 13. Sec., Dr. P. C. Williams, Texarkana.
Arkansas: Regular, Little Rock, July 13. Sec., Dr. F. T. Murphy, Brinkley.
Colorado: Denver, July 6. Sec., Dr. S. D. VanMeter, 1723 Tremont Place.
Connecticut: Regular, New Haven, July 13-14. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, July 13. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, July 13. Sec., Dr. T. S. Hodge, 17 Main St., Torrington.
District of Columbia: Washington, July 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.
Indiana: 120 State House, Indianapolis, July 13-15. Sec., Dr W. T. Gott.
Kentucky: Louisville, July 6. Sec., Dr. J. N. McCormack, Bowling Green.
Maine: State House, Augusta, July 13-14. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.
Massachusetts: State House, Boston, July 13-15. Sec., Dr. Edwin B. Harvey, Room 159, State House.
New Mexico: Santa Fe, July 12. Sec., Dr. J. A. Massie.
North Dakota: Grand Forks, July 6-8. Sec., Dr. H. M. Wheeler.
Oklahoma: Guthrie, July 13. Sec., Dr. Frank P. Davis, Enid.
Oregon: Portland, July 6. Sec., Dr. R. C. Coffey.
South Dakota: Watertown, July 14-15. Sec., Dr. H. E. McNutt, Aberdeen.
Utah: Salt Lake City, July 5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.
Vermont: Burlington, July 13-15. Sec., Dr. W. Scott Nay, Underhill.

Washington: Seattle, July 6-8. Sec., Dr. Kenneth B. Turner, Walker Bldg.
West Virginia: Charleston, July 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.
Wisconsin: Madison, July 13-15. Sec., Dr. J. V. Stevens, Jefferson.

Washington January Report

Dr. Kenneth Turner, secretary of the Washington State Medical Examining Board, reports the written examination held at Spokane, Jan. 5-7, 1909. The number of subjects examined in was 15; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 94, of whom 72 passed and 22 failed. Two candidates took an incomplete examination. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
College of Physicians and Surgeons, San Francisco	(1907)	77.
California Medical College	(1897)	70.5*
Denver and Gross College of Medicine	(1907)	85.
George Washington University	(1907) 82, 84; (1908)	85.
Rush Medical College	(1900) 88; (1907) 87; (1908)	83.
Northwestern University Medical School,	(1893) 79; (1896) 80; (1904) 92; (1907) 85; (1908) 84.	
Illinois Medical College	(1906)	78.
College of Physicians and Surgeons, Chicago	(1908)	82.
Hahnemann Medical College and Hospital, Chicago,	(1907)	77.
Eclectic Medical College of Indiana	(1908)	79.
Medical College of Indiana	(1905)	85.
University of Iowa, College of Medicine	(1908)	83. 83.
University of Louisville	(1907)	77.
Kentucky University	(1904)	75.
Baltimore University	(1897)	76.
Baltimore Medical College	(1908)	78.
Boston University	(1903)	81.
College of Physicians and Surgeons, Boston	(1907)	75.
Tufts College Medical School	(1907)	86.
Johns Hopkins Medical School	(1907)	85.
University of Michigan	(1901)	83.
University of Minnesota	(1905) 85; (1906)	76.
Hamline University, Minneapolis	(1905)	79.
St. Louis College of Physicians and Surgeons	(1902)	79.
Barnes Medical College	(1905)	75.
Washington University, St. Louis	(1908)	86.
St. Louis University	(1908)	78.9, 86.
Creighton Medical College	(1907)	80, 83, 86.
University of Nebraska	(1905)	80.
Bellevue Hospital Medical College	(1896)	76.
Columbia University, College of Phys. and Surg	(1905)	91.
Pulte Medical College	(1882)	79.
Toledo Mdical College	(1896)	71, 89.
Eclectic Medical Institute, Cincinnati	(1899)	78.
Medical College of Ohio	(1899)	86.
Cincinnati College of Medicine and Surgery	(1898)	83.
University of Oregon	(1907) 80; (1908)	89.
Willamette University	(1906) 70.1*; (1907) 87; (1908)	79, 84.
Jefferson Medical College	(1905) 90; (1908)	76, 90.
University of Pennsylvania	(1889) 85; (1903)	88.
of Philadelphia	(1903)	77.
	(1891)	78.
ine, Richmond	(1899)	80.
	(1902)	89.
	(1895) 85; (1903)	91.
Ontario	(1907) 84; (1908)	77.
tario	(1894)	88.
ermany	(1900)	79.
	(1896)	82.
FAILED		
Kentucky School of Medicine	(1908)	73.5
Rush Medical College	(1892)	60.
American College of Medicine and Surgery	(1906)	72.
Hospital College of Medicine, Louisville	(1905)	70.
Baltimore Medical College	(1907)	70.
Tulane University of Louisiana	(1887)	52.
Central College of Phys. and Surg., Indianapolis	(1903)	68.
Tufts College Medical School	(1908)	63.7
Detroit College of Medicine	(1907)	70.
University of Minnesota	(1906)	63.
St. Louis University	(1905)	69.
Ensworth Central Medical College	(1906)	71.
Missouri Medical College	(1894)	64.
University Medical College, Kansas City	(1901)	62.
Kansas City Homeopathic Medical College	(1896)	66.
St. Louis College of Physicians and Surgeons	(1896)	69.1
Creighton Medical College	(1901)	73.6
Tennessee Medical College	(1893) 48; (1900)	47.
University of Nashville	(1902)*	64.

* Ten or more years of practice entitles a physician to be licensed on a grade of 70 per cent.

State Board Statistics—A Correction

In the State Board Statistics published in The Journal, May 22, 1909, it was reported that two candidates who failed in Massachusetts were graduates of the Chicago College of Medicine and Surgery. Later correspondence with the Massachusetts board, however, states that the candidates were undergraduates and the failures, therefore, should not be charged against the college named.

Association News

PROCEEDINGS OF ATLANTIC CITY SESSION

(Continued from page 2086, Vol. LII)

SECTION TRANSACTIONS

Those who desire copies of the 1909 Transactions of any of the Sections, but who are not on the permanent subscription list, should order them at once, as printing will commence soon on several. Only enough are printed to supply the demand, and each year some persons order too late to be supplied. It is to be remembered that one may give a permanent order for Transactions; and those specified are sent, from year to year, until the order is canceled. By this arrangement each book costs the subscriber $1.00, payable at time of delivery. Address orders to the American Medical Association, 103 Dearborn Avenue, Chicago.

MINUTES OF SECTIONS

The minutes of the proceedings of the twelve sections at the sixtieth annual session, held at Atlantic City, June 8 to 11, 1909, are given below. A number of reports of committees, which require too much space for use here, will be published later.

SECTION ON PRACTICE OF MEDICINE

Tuesday, June 8—Afternoon

The Section was called to order by the chairman, Dr. Joseph L. Miller, Chicago, at 2 p. m., at the Savoy Theater.

Dr. N. B. Potter, New York City, read a paper on "Medical Supervision of Boarding Schools, and Athletic Contests Among School Boys." Discussed by Drs. De Lancey Rochester, Buffalo; Richard C. Cabot, Boston; Stanley P. Black, Pasadena, Cal., and Potter.

Dr. Frederick Forchheimer, Cincinnati, read a paper on "Cardiac and Vascular Complications in Pneumonia, with Special Reference to Treatment." Discussed by Drs. De Lancey Rochester, Buffalo; Frank Billings, Chicago; C. F. Hoover, Cleveland; John H. Musser, Philadelphia; Alexander Lambert, New York City; Theodore Potter, Indianapolis, and Forchheimer.

Dr. W. G. MacCallum, Baltimore, read a paper on "An Experimental Study of Gastric Tetany." Discussed by Drs. Allen A. Jones, Buffalo, and Nathaniel B. Potter, New York.

Dr. Frank Billings, Chicago, read a paper on "Chronic Infectious Endocarditis." Discussed by Drs. Alfred Stengel, Philadelphia; De Lancey Rochester, Buffalo; John A. Witherspoon, Nashville; Walter L. Bierring, Iowa City; John M. Anders, Philadelphia; Charles G. Stockton, Buffalo; Richard C. Cabot, Boston, and Billings.

Dr. Allen A. Jones, Buffalo, read a paper on "Diverticulum of the Pylorus." Discussed by Drs. Charles G. Stockton, Buffalo, and Jones.

Dr. Warren Coleman, New York City, read a paper on "Diet in Typhoid Fever." Discussed by Drs. Max Einhorn, New York City; Frank E. Brown, Baltimore; Thomas A. Claytor, Washington; Arthur K. Stone, Boston; A. Jacobi, New York City; John M. Anders, Philadelphia; Walker, Philadelphia; Parker, Detroit; Woods Hutchinson, New York City, and Coleman.

Wednesday, June 9—Morning

Dr. Judson Daland, Philadelphia, read a paper on "Clinical Significance of Indicanuria." Discussed by Drs. Heinrich Stern, New York City; Harry A. Harrower, Chicago; Richard C. Cabot, Boston; Allen A. Jones, Buffalo;; Anthony Bassler, New York City, and Daland.

Dr. Philip King Brown, San Francisco, read a paper on "The Diagnostic Value of Stained Specimens of Stools in Cancer of the Stomach." Discussed by Drs. Herman B. Allyn, Philadelphia; Allen A. Jones, Buffalo; Anthony Bassler, New York City, and Brown.

Dr. Alexander Lambert, New York City, read a paper on "Resorption of Proteids, Carbohydrates and Fats in the Chronic Alcoholic." Discussed by Drs. E. P. Joslin, Boston; John A. Lichty, Pittsburg, and Lambert.

Dr. Charles G. Stockton, Buffalo, read a paper on "The Diagnostic Value and Limitations of Analysis of the Gastric Contents."

Dr. A. W. Crane, Kalamazoo, Mich., read a paper on "X-Ray Evidence in Gastric Cancer."

Dr. Clifford B. Farr, Philadelphia, read a paper on "The Determination of Trypsin in the Stomach Contents After the Oil Test Meal."

These three papers were discussed by Drs. G. E. Pfahler, Philadelphia; Judson Daland, Philadelphia; Allen A. Jones, Buffalo; Richard C. Cabot, Boston; John A. Lichty, Pittsburg; Harry A. Harrower, Chicago; John N. Upshur, Richmond, Va.; C. W. Smith, Baltimore; Frank Smithies, Ann Arbor, Mich.; Alexander Lambert, New York City; Philip King Brown, San Francisco; Stockton and Crane.

Dr. Charles P. Emerson, Clifton Springs, N. Y., read a paper on "The Diagnostic Importance of Examination of the Feces." Discussed by Drs. Henry F. Hewes, Boston; George Dock, New Orleans; Walter L. Bierring, Iowa City, Iowa; David L. Edsall, Philadelphia; Woods Hutchinson, New York City, and Sir James Alexander Grant, Ottawa, Ontario.

Wednesday, June 9—Afternoon

Dr. James B. McElroy, Memphis, read the oration in Medicine: "Tropical Diseases, America's Opportunities and Obligations."

The chairman appointed the following Nominating Committee: Drs. David L. Edsall, Philadelphia; D. Vanderhoof, Richmond, and Philip King Brown, San Francisco.

Dr. Samuel T. Darling, Ancon, Canal Zone, read a paper on "Transmission of Malarial Fever in the Canal Zone by Anopheles Mosquitoes." Discussed by Dr. Richard C. Cabot, Boston; John A. Witherspoon, Nashville; Seale Harris, Mobile, Ala., and Darling.

Dr. Simon Flexner, New York City, read a paper on "The Present Status of the Serum Treatment of Epidemic Cerebrospinal Meningitis." Discussed by Drs. Thomas Morgan Rotch, Boston; Philip King Brown, San Francisco; William Litterer, Nashville, and Flexner.

Dr. Herman N. Adler and Dr. Gerald Blake, Boston, presented a paper on "The Retention of Alkali by the Kidney, with Special Reference to Acidosis." Discussed by Drs. E. P. Joslin, Boston, and Adler.

Dr. Sidney K. Simon, New Orleans, read a paper on "Amebic Dysentery." Discussed by Drs. T. B. Futcher, Baltimore; George Dock, New Orleans; Hobart A. Hare, Philadelphia; Hugo A. Freund, Detroit; James P. Tuttle, New York City; Samuel Goodman Gant, New York City, and Simon.

Thursday, June 10—Morning

Dr. Edward F. Wells, Chicago, secretary of the Committee on Program, stated that the conclusions reached by the committee were that the best interest of the Section on Medicine would be served by asking for a tentative recommendation of last year's report, and it asked that the matter be referred for further consideration to the Executive Committee, which should work out the problems involved. (The report of the Committee on Program appeared in full in Proceedings of the Chicago Session, The Journal, June 20, 1908, page 2080.)

Dr. DeLancey Rochester, Buffalo, moved that the report be received and that the recommendations be adopted. The motion was seconded and carried.

The Nominating Committee made the following report: Chairman, Dr. George Blumer, New Haven; secretary, Dr. Wilder Tileston, Boston; orator, Dr. Richard C. Cabot, Boston; delegate, Dr. Joseph Capps, Chicago; alternate delegate, Dr. Alexander Lambert, New York City.

Dr. Munson moved the adoption of the report; the motion was carried.

Dr. Warfield T. Longcope, Philadelphia, read a paper on "The Association of Aortic Insufficiency with Syphilitic Aortitis." Discussed by Drs. Richard C. Cabot, Boston; Allen A. Jones, Buffalo, and Longcope.

Dr. Henry A. Christian, Boston, read a paper on "Clinical Value of Recent Studies in Experimental Nephritis."

Dr. John H. Musser, Philadelphia, read a paper on "Hypertension in Nephritis; Its Cause and Treatment."

Dr. Victor C. Vaughan, Ann Arbor, being unable to attend, by a vote of the Section his paper on "The Value and Limitations of a Salt-Free Diet and Restriction of Fluids in Nephritis," was read for him by Dr. H. W. Hewlett, Ann Arbor.

Dr. Edward F. Wells, Chicago, read a paper on "The Management of Uremia."

These four papers were discussed by Drs. David L. Edsall, Philadelphia; Albert Robin, Wilmington, Del.; De Lancey Rochester, Buffalo; James Tyson, Philadelphia; John A. Lichty, Pittsburg; John N. Upshur, Richmond, Va.; C. W. Smith, Baltimore; Walter L. Bierring, Iowa City, Iowa; Heinrich Stern, New York City; Boardman Reed, Los Angeles; Hugo A. Freund, Detroit; C. F. Hoover, Cleveland; Christian, Musser and Wells.

Dr. George Dock, New Orleans, read a paper on "The Talma-Morrison Operation in the Treatment of Cirrhosis of Liver." Discussed by Drs. Nathaniel Bowditch Potter, New York City; Albert E. Roussel, Philadelphia; C. F. Hoover, Cleveland; S. E. Munson, Springfield, Ill.; Joseph L. Miller, Chicago, and Dock.

Thursday, June 10—Afternoon

Dr. McCrea read the report of Committee on Revision of Pharmacopeia. Discussed by Drs. M. I. Wilbert, Philadelphia; L. A. Conner, New York City; John F. Anderson, Washington, D. C.; W. Clayton Thrush, Philadelphia.

Dr. H. T. Ricketts, Chicago, read a paper on "Rocky Mountain Spotted Fever." Discussed by Dr. Woods Hutchinson, New York City.

Dr. Thomas D. Coleman, Augusta, Ga., read a paper on "Algid Forms of Malaria, with Report of Cases." Discussed by Drs. John A. Witherspoon, Nashville; James B. McElroy, Memphis, and Coleman.

Dr. Edward H. Goodman, Philadelphia, read a paper on "The Value of Alimentary Levulosuria in the Diagnosis of Hepatic Cirrhosis." Discussed by Drs. De Lancey Rochester, Buffalo; Williams, Rochester, and Goodman.

Dr. S. P. Beebe and Dr. W. Gilman Thompson, New York City, read a paper on "The Nature and Treatment of Anemia." Discussed by Drs. De Lancey Rochester, Buffalo; Theodore Potter, Indianapolis; Louis G. Heyn, Cincinnati; Samuel L. Miller, Chicago; Walter L. Bierring, Iowa City, Iowa, and Beebe.

Dr. Joseph H. Pratt, Boston, read a paper on "The Work of a Cooperative Hydrotherapeutic Establishment." Discussed by Drs. John A. Lichty, Pittsburg; C. W. Smith, Baltimore; Andrew MacFarlane, Albany, N. Y., and Pratt.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN

Tuesday, June 8—Afternoon

The Section met in Casino Hall, Steel Pier, and was called to order by the chairman, Dr. Walter P. Manton of Detroit, at 2:10 p. m. The vice-chairman, Dr. H. G. Wetherill of Denver, took the chair, and the chairman's address, on "Mental Alienation in Women and Abdomino-Pelvic Disease," was delivered by Dr. Manton.

The Chairman announced the following Nominating Committee: Drs. C. S. Bacon, Chicago; J. Wesley Bovée, Washington; W. B. Dorsett, St. Louis; Dr. F. F. Lawrence, Columbus; F. F. Simpson, Pittsburg. The committee to meet at 8:45 a. m. Wednesday, June 9.

Dr. A. E. Benjamin read a paper on "The Operation of Choice for Retrodisplacements of the Uterus." Discussed by Drs. Barrett, Bovée, Boldt, Hall, Marcy, Peterson, Stone, Fry, Cohen of Buffalo, Potter, Shoemaker and Benjamin.

Dr. Fred. H. Albee read a paper on "A Study of the Anatomy and Clinical Importance of the Sacroiliac Joint." Discussed by Drs. Frederick, Peterson, Barret, Myer Solis Cohen of Philadelphia and Wineberg of Scranton.

Drs. William S. Gardner and Emil Novak of Baltimore presented a paper on "The Endometrium and Some of Its Variations," which was read by Dr. Novak. Discussed by Drs. Marcy and Clark.

The paper by Dr. Francis D. Donoghue, Boston, on "Chronic Appendicitis with Chronic Perienteritis and Intestinal Obstruction Due to Infolding of Mucosa," was on motion of Dr. Hall referred to the Committee on Publication, for publication at their discretion, Dr. Donoghue having been present but called home.

Wednesday, June 9—Morning

The Section was called to order at 9:10 a. m. by the chairman.

Dr. J. E. Welch, New York City, read a paper on "The Pathology of Eclampsia and Toxemia of Pregnancy."

Dr. Ross McPherson, New York City, read a paper on "Study of Eclampsia with Results in Two Hundred and Fifty Cases, from the Wards of the Lying-in Hospital of New York City."

These two papers were discussed by Drs. Wetherill, Cohen of Buffalo, Lawrence, Frederick, Bacon, Fry, Frederick, Peterson, Welch and McPherson.

Dr. J. Wesley Bovée, Washington, read a paper on "A Method of Complete Nephroureterectomy." No discussion.

Dr. F. F. Simpson, Pittsburg, read a paper on "Some Factors Which Contribute to Low Mortality in Abdominal Surgery." Discussed by Drs. Reed of Cincinnati, Carstens, Boldt, Bacon, Lawrence, Morris, Wetherill, McGlinn and Simpson.

Dr. John Osborn Polak, Brooklyn, read a paper on "Remote Results of Conservative Surgery of the Ovaries." Discussed by Drs. Clark, Kelly, Goldspohn, Hall, Frederick, Sponsor of Indianapolis, Harris and closed by Dr. Polak.

Wednesday, June 9—Afternoon

The Section was called to order at 2:10 p. m. by the Chairman.

Dr. Henry D. Fry of Washington, D. C., read a paper entitled "An Ovarian Abscess Containing a Lumbricoid Worm Within the Cavity." No discussion.

Dr. Horace G. Wetherill, Denver, read a paper on "The Present Status of Irrigation and Drainage in Obstetric and Gynecologic Operations." Discussed by Drs. Golden, Ill, Jack and Wetherill.

Dr. Ellice McDonald, New York City, read a paper on "Fibromyoma of the Uterus."

Dr. E. E. Montgomery, Philadelphia, read a paper on "Enucleation of Uterine Myomata: Why and When Preferred."

These two papers were discussed by Drs. Boldt, Massey, Kelly, Chase, Tracy, Ill, Frederick, Lawrence, Montgomery and McDonald.

Dr. H. Grad, New York City, read a paper on "Ovariotomy and Myomectomy Early in Pregnancy with Full-Term Delivery." The paper was discussed by Drs. Kelly, Fry, Benjamin, Carstens and closed by Dr. Grad.

On motion and unanimous consent the rule that papers whose authors were not present when announced should be postponed to the close of the program was withdrawn in regard to the paper of Dr. Howard A. Kelly, Baltimore, which was read at this time, entitled "Curettage for Uterine Hemorrhage." Discussed by Drs. Massey, Boldt, Carstens, Fry, Shoemaker, Gardner, Novak, Grad. Boldt and Kelly.

Thursday, June 10—Morning

The Section was called to order at 9:15 a. m. by the Chairman.

The Nominating Committee made the following report for officers for the coming year: Chairman, Dr. John G. Clark, Philadelphia; vice-chairman, Dr. C. C. Frederick, Buffalo; secretary, Dr. C. Jeff Miller, New Orleans; delegate, Dr. Horace G. Wetherill, Denver; alternate, Dr. I. S. Stone, Washington, D. C.

Dr. Boldt moved that the Secretary cast an affirmative ballot for the gentlemen nominated, the motion was carried and the gentlemen declared elected.

Dr. G. Betton Massey, Philadelphia, offered a resolution embodying a petition to the House of Delegates for the creation of a Section on Physical Forces and Allied Agencies in Medicine and Surgery. Dr. Carstens moved the endorsement of the resolution and that it be sent to the House of Delegates. Dr. Hall seconded the motion and it was carried.

Dr. H. J. Boldt, New York City, read a paper on "Cancer of the Uterus Too Far Advanced for Radical Operation."

Dr. Walter B. Chase, Brooklyn, read a paper on "Palliative Treatment of Cancer of the Uterus."

These two papers were discussed by Drs. Massey, Carstens, Frederick, Marcy, McGlinn, Stone, Kelly, Polak, Novak, Wetherill, Bernard Cohen of Buffalo, Boldt and Chase.

Dr. W. B Dorsett, St. Louis, offered the following resolution, which was adopted:

> *Resolved,* That a Committee of Three (of whom the delegate to the House of Delegates of this Section be one) be appointed to confer with the Committee on Public Instruction of the House of Delegates, as well as to formulate plans of campaigning against cancer, and that they report the result of their work at the next meeting of this Section.

Drs. H. G. Wetherill, Chairman; John G. Clark and Henry D. Schwartz were subsequently appointed on this committee by the Chairman.

Dr. Howard A. Kelly offered resolutions on the need of a reduction in the tariff on radium, which were referred to the House of Delegates.

Dr. I. S. Stone, Washington, read a paper on "Some Minor Gynecologic Matters Which are Often Overlooked." Discussed by Drs. Morris of New York City, Dunning of Newburg, and Martine of Utica.

Dr. Reuben Peterson, Ann Arbor, Mich., read a paper on "Tetanus Developing Twelve Days After Shortening of the Ligaments." Discussion by Drs. Dorsett, Waldo, Hutchins, Sullivan, Boldt, Hutchins, Potter, Frederick and Peterson.

Dr. J. H. Carstens, Detroit, read a paper on "The Final Word on the Stem Pessary for Dysmenorrhea, Amenorrhea, Sterility, etc." Discussed by Drs. Kelly, Jack Benjamin and Carstens.

Thursday, June 10—Afternoon

The meeting was called to order at 2:20 p. m. by the Chairman.

Dr. H. S. Crossen, St. Louis, read a paper on "Conditions Simulating Early Tubal Pregnancy."

Dr. L. G. Bowers, Dayton, read a paper on "Extrauterine Pregnancy, with Especial Reference to the Proper Operative Period After Tubal Rupture, with Report of Cases." Discussed by Drs. Barrett, Schuman, McPherson, Polak, Stelwagon, Novak, Benjamin, Schwarz, Waldo, Simpson, Wetherill, Shoemaker, Boyd, Crossen and Bowers.

Dr. George R. White, Savannah, read a paper entiled "Cystocele." Discussed by Drs. Grad, Martindale of Camden, Barret of Chicago, Stone, Goldspohn and White.

A paper by Dr. D. Tod Gilliam on "An Imbricating and Coaptation Suture as a Safeguard Against Hernia" was read by title.

After a vote of thanks to the retiring Chairman, the Section was declared adjourned.

SECTION ON SURGERY

Tuesday, June 8—Afternoon

The Section was called to order at 2 p. m., in Casino, Steel Pier, by the Chairman, Dr. John C. Munro, who delivered an address.

The following five papers were read and discussed jointly:

C. A. Powers, Denver, "Localized Subphrenic Tuberculosis."

Emil G. Beck, Chicago, "Treatment of Tuberculous Pleuritis and Empyema."

Prof. P. L. Friedrich, Marburg, Germany, "Address on Thoracic Surgery."

Dr. Willy Meyer, New York City, "Pneumectomy with the Aid of Differential Pressure; an Experimental Study. The new type of apparatus used."

Drs. Green and Janeway, New York City, "Intrathoracic Physiologic and Technical Studies."

Discussed by Drs. DeForest Willard, Philadelphia; S. J. Meltzer, New York City; Fell, Buffalo; Robinson, Boston; Green, New York; J. B. Murphy, Chicago; Hartford, Boston; A. J. Ochsner, Chicago; Powers, Beck, Friedrich, Meyer and Janeway.

Wednesday, June 9—Morning

Dr. Dudley Tait and Dr. Raymond Russ, San Francisco, read a paper on "Electric Sleep." Discussed by Drs. L. G. Robinovitch and G. E. Brewer, New York City.

The following three papers were read and discussed jointly:

Dr. W. Arbuthnot Lane, London, Eng., "The Operative Treatment of Fractures."

Dr. William Darrach, New York City, "Operative Treatment of Fractures."

Dr. E. D. Martin, New Orleans, "A Plea for the More Careful Diagnosis of Fractures and Their Treatment."

Discussed by Drs. C. L. Scudder, Boston; LeMoyne Wills, Los Angeles; P. L. Friedrich, Germany; A. J. Ochsner, Chicago; L. Freeman, Denver; Walker, New York City; J. B. Murphy, Chicago; C. A. Powers, Denver; W. L. Estes, South Bethlehem, Pa.; R. Matas, New Orleans; De F. Willard, Philadelphia; Thompson, Scranton; R. F. Weir, New York; Hoy, Ohio; J. F. Binnie, Kansas City; Lane and Darrach.

Wednesday, June 9—Afternoon

Dr. Harvey Cushing. Baltimore, delivered the Oration on Surgery, "Hypophysis Cerebri; Clinical Aspects of Hypersecretion and Hyposecretion."

Dr. A. E. Hertzler, Kansas City, Mo., read a paper on "The Pseudoperitoneum."

Dr. J. B. Deaver, Philadelphia, read a paper on "The Early Symptoms of Upper Abdominal Disease."

These two papers were discussed by Drs. W. D. Haggard, Nashville; R. Morris, New York City; A. MacLaren, St. Paul; Hertzler and Deaver.

Dr. A. J. Ochsner, Chicago, read a paper on "Pancreatitis." Discussed by Dr. J. J. Gilbride, Philadelphia.

The following two papers were read and discussed jointly:

Dr. Stanley Stillman, San Francisco, "Hypertrophic Stenosis of the Pylorus in Infants. Report of Cases Occurring on the Pacific Coast."

Dr. J. H. Gibson and Dr. F. T. Stewart, Philadelphia, "Report of Twenty Cases of Perforated Gastric and Duodenal Ulcer."

Discussed by Drs. W. J. Mayo, Rochester, Minn.; J. C. Bloodgood, Baltimore; F. C. Shattuck, Boston, and Skinner, New York City.

Thursday, June 10—Morning

Dr. J. B. Murphy, Chicago, read a paper on "Joint Infections, Etiology and Pathology Demonstrated Experimentally, and Clinical Results Obtained by Treatment Based on These Experiments."

Dr. E. H. Nichols, Boston, read a paper on "Arthritis Deformans."

These two papers were discussed by Drs. A. D. Bevan, Chicago; J. L. Wiggin, East St. Louis; A. Vander Veer, Albany; DeF. Willard, Philadelphia; R. Morris, New York City; J. E. Moore, Minneapolis; J. F. Binnie, Kansas City; E. H. Nichols, Boston, and Murphy.

The report of the Anesthesia Commission was presented by Dr. W. D. Haggard.

Dr. W. B. Coley, New York City, read a paper on "The Conservative Treatment of Sarcoma of the Long Bones." Discussed by Drs. J. C. Bloodgood, Baltimore; A. D. Bevan, Chicago; H. S. Wieder, Philadelphia; J. C. Roberts, Philadelphia, and Coley.

The following three papers were read and discussed jointly:

Dr. E. S. Judd, Rochester, Minn., "The Transperitoneal Operation for the Removal of Bladder Neoplasms."

Dr. Willard Bartlett, St. Louis, "A Radical Operation for Certain Forms of Hydrocele."

Dr. V. C. Pederson, "Dilatation Treatment of Urethral Stricture."

Discussed by Drs. L. Davis, Boston; W. S. Lower, Cleveland; Watts, New York City; Block, Kansas City; J. H. Gibbon, Philadelphia; F. C. Valentine, New York; Judd, Bartlett and Pederson.

Thursday, June 10—Afternoon

The Nominating Committee presented the following names, which on motion, were accepted, and the officers declared elected: Chairman, Charles H. Mayo, Rochester, Minn.; vice-chairman, Thomas Huntington, San Francisco; secretary, W. D. Haggard, Nashville; orator, Robert Abbe, New York City; delegate, Edward H. Ochsner, Chicago; alternate, J. W. D. Maury, New York City.

Dr. W. J. Mayo, Rochester, Minn., contributed a paper on "Some of the Principles Underlying Surgery of the Spleen." Discussed by Dr. A. J. Ochsner, Chicago.

The following three papers were read and discussed jointly:

Dr. Van Buren Knott, Sioux City, Ia., "The Treatment of the Appendix Stump."

Dr. LeGrand Guerry, Columbia, S. C., "Consideration of the Mortality of Appendicitis."

Dr. J. W. D. Maury, New York City, "Causes of Death in Acute Intestinal Obstruction and Kindred Conditions."

Discussed by Drs. W. D. Haggard, Nashville; Stanton, New York City; W. L. Rodman, Philadelphia; R. Morris, New York; Skinner, New York City; E. LaPlace, Philadelphia; F. F. Lawrence, Columbus; W. J. Mayo, Rochester; A. J. Ochsner, Chicago, and Maury.

Friday, June 11—Morning

The Chairman announced that the name of the Section would hereafter be "Section on Surgery," and that three Vice-Chairmen would be elected; also that the following Anesthesia Committee had been appointed, consisting of members of various sections interested in this question Dr. W. D. Haggard, chairman; Dr. J. G. Mumford, Dr. H. Gifford, Dr. A. Lambert and Dr. H. Wood.

Dr. J. E. Summers, Omaha, reported a "Case of Sarcoma of the Tonsil." Discussed by Drs. M. F. Porter, Fort Wayne, Ind.; H. S. Wieder, Philadelphia, and Summers.

The following three papers were read and discussed jointly:

Dr. J. C. Stewart, Minneapolis, "The Radical Treatment of Epithelioma of the Lip."

Dr. W. L. Rodman, Philadelphia, "Method of Procedure in Mammary Neoplasms of Doubtful Nature."

Dr. J. N. Jackson, Kansas City, Mo., "Radical Operation in Mammary Cancer."

Discussed by Drs. H. S. Wieder, Philadelphia; W. H. Welch, Baltimore; W. L. Grant, Denver; E. S. Judd, Rochester, Minn.; M. F. Porter, Ft. Wayne, Ind.; J. F. Binnie, Kansas City; Smith, New York City; LeM. Mills, Los Angeles; J. C. Munro, Boston; M. Hartwig, Buffalo; Stewart, Rodman and Jackson.

SECTION ON OPHTHALMOLOGY

Tuesday, June 8—Afternoon

Dr. Alvin A. Hubbell, Buffalo, chairman, delivered an address on "Ophthalmologic Standards which Should be Required in General and in Special Practice."

Dr. Walter R. Parker, Detroit, read a paper on "The Visual Fields in Hysteria, a Clinical Study of Fifty Cases." Discussed by Drs. E. C. Ellett, Memphis; L. Howe, Buffalo; Casey Wood, Chicago; G. E. de Schweinitz, Philadelphia; C. H. May, New York City, and Parker.

Dr. M. Wiener, St. Louis, read a paper on "Regeneration of the Cornea." Discussed by Drs. John Green, St. Louis; W. Zentmayer, Philadelphia; Robert L. Randolph, Baltimore; A. R. Baker, Cleveland; Miller, St. Louis; G. C. Savage, Nashville, and Wiener.

Dr. Edward Jackson, Denver, read a paper on "Scissors-Magnet Extraction of Iron from Eyeball." Discussed by Drs. W. M. Sweet, Philadelphia; W. Marple, New York City; H. Gifford, Omaha; W. H. Wilder, Chicago; E. E. Holt, Portland; Donovan, Dubuque; Robert L. Randolph, Baltimore, and Jackson.

Dr. H. Gifford, Omaha, read a paper on "Prophylaxis of Interstitial Keratitis." Discussed by Drs. Fox, Philadelphia; S. D. Risley, Philadelphia; F. H. Verhoeff, Boston; W. L. Pyle, Philadelphia; John Green, St. Louis; Miles Standish, Boston; G. H. Price, Nashville; A. R. Baker, Cleveland; A. E. Bulson, Jr., Ft. Wayne, Ind., and Gifford.

Wednesday, June 9—Morning

Dr. George F. Keiper, Lafayette, Ind., described a new instrument for the measurement of astigmatism.

On motion of Dr. Edward Jackson, Denver, amended by Dr. Savage, Memphis, the Chairman appointed a committee consisting of Drs. L. Connor, Detroit, J. Thorington, Philadelphia, A. R. Baker, Cleveland, to consider and report at this meeting on the special suggestions and recommendations of the Chairman's address.

The report of Dr. Casey Wood, Chicago, chairman of the Committee on Proposed Alterations in the U. S. Pharmacopeia, was read and adopted on motion, and by separate motion of Dr. Savage, Memphis, the committee was continued.

Dr. Lee M. Francis, Buffalo, read a paper on "Isolated and Complete Paralysis of the Third Nerve of Traumatic Origin." Discussed by Wendell Reber, Philadelphia.

Dr. David W. Stevenson, Richmond, Ind., read a paper on "Unreliability of Astigmatic Fan or Clock-Dial Test." Discussed by Drs. [illegible] delphia; F. H. Verhoeff, Boston; J. W. [illegible] a.; O. Wilkinson, Washington; L. Conn [illegible]. Jackson, Denver; John Green, St. Louis; W. Reber, Philadelphia; and Stevenson.

Dr. William E. Gamble, Chicago, read a paper on "Simple Fibroma of the Orbit." Discussed by Drs. George F. Keiper, Lafayette, Ind., G. O. Ring, Philadelphia.

Dr. J. A. Tenney, Boston, read a paper on "Dropsy of the Optic Nerve Sheath." Discussed by Drs. L. Webster Fox, Philadelphia; A. R. Baker, Cleveland, and Tenney.

Dr. Samuel Theobald, Baltimore, read a paper on "Reflex Aural Neuroses Caused by Eye-Strain, with Report of Cases." Discussed by Drs. Park Lewis, Buffalo; E. E. Holt, Portland; L. Howe, Buffalo; S. D. Risley, Philadelphia, and Theobald.

L. Webster Fox, Philadelphia, read a paper on "Amethyst Tinted Lenses." Discussed by Drs. Nelson M. Black, Milwaukee; Mortimer Frank, Chicago; W. L. Pyle, Philadelphia; Williams, Boston; Barton Pitts, St. Joseph, Mo.; G. Friebis, Philadelphia, and Fox.

Wednesday, June 9—Afternoon

Dr. H. F. Hansell, Philadelphia, read a paper on "Some Minor Points in the Surgery of Cataract." Discussed by Drs. H. D. Bruns, New Orleans; G. C. Savage, Nashville; W. B. Marple, New York City; L. Howe, Buffalo; Mark Stevenson, Akron, Ohio; G. O. Ring, Philadelphia; O. Tydings, Chicago; A. R. Baker, Cleveland, and A. E. Davis, New York City.

Dr. H. V. Würdemann, Seattle, Wash., read a paper on "The Expression of Cataract in Its Capsule, with Report of 40 Operations."

Dr. D. W. Greene, Dayton, Ohio, read a paper on "Expression of Cataracts in the Capsule by the Smith Method."

These two papers were discussed by Drs. Peter Callan, New York City; Arnold Knapp, New York City; Casey Wood, Chicago; W. R. Parker, Detroit; W. H. Wilder, Chicago; Percy Fridenberg, New York City; L. Webster Fox, Philadelphia; F. Allport, Chicago; M. Wiener, St. Louis; W. B. Marple, New York City; Park, Columbus, Ohio; Cooley; Mark D. Stevenson, Akron, Ohio; Malet, Dayton, Ohio, Würdemann and Greene.

S. Lewis Ziegler, Philadelphia, read a paper on "Galvano-Cautery Puncture in Ectropion and Entropion." Discussed by Drs. S. D. Risley, Philadelphia; W. Zentmayer, Philadelphia; Barton Pitts, St. Joseph, Mo.; E. E. Holt, Portland, Maine; Price and Ziegler.

Dr. R. L. Randolph, Baltimore, read a paper on "Rodent Ulcer of the Cornea." Discussed by Drs. G. E. de Schweinitz, Philadelphia; Barton Pitts, St. Joseph, Mo.; J. A. Donovan, Butte, Mont.; H. Gifford, Omaha, and Randolph.

Dr. Casey A. Wood, Chicago, read a paper on "Epibulbar Leucosarcoma, Exenteration of the Orbit. No Recurrence at the Original Site. Death in Three Months from Metastases." Discussed by Drs. M. Black, Denver; G. F. Keiper, Lafayette, Ind.; Barton Pitts, St. Joseph, Mo.

Dr. Alexander Duane, New York City, read a paper on "The Accommodation and Donder's Curve, and the Need of Revising our Ideas Regarding Them; An Experimental Study." Discussed by Drs. Edward Jackson, Denver, and Duane.

Thursday, June 10—Morning

Dr. George F. Keiper, Lafayette, Ind., exhibited a modification of Brande's instrument for the measurement of astigmatism.

Dr. G. H. Savage, Memphis, exhibited and described his instrument for measuring muscle deviations.

Dr. Alexander Duane, New York City, exhibited and described his disc for testing the accommodation.

Dr. Lucien Howe, Buffalo, exhibited and described an instrument for estimating the strength of the ocular muscles.

Dr. Briggs, Ashland, Pa., exhibited and described an instrument for shortening the ocular muscles without cutting and without the use of sutures.

Dr. Lucien Howe, Buffalo, presented the report of the committee on legislation concerning opticians. On motion it was adopted. The report was as follows:

Report of Committee on Legislation Concerning Opticians

At a meeting of this section two years ago a committee was appointed to consider legislation concerning opticians. That committee made a report last year, but it was referred back for some modifications. Since then new aspects of the question have been presented for consideration. Moreover, one member of this committee has been asked to become the chairman of a committee of the section to study the ocular muscles, and another to become the chairman of a committee to study tuberculosis of the eye, both of these invitations having been accepted. The third member of the committee, Gen. George E. Sternberg, was never a member of this Section, has no special interest in the subject and accepted a place on the committee only after rather urgent solicitation and at considerable personal inconvenience.

In view of the changes required in the report, therefore, and in view of the new duties assigned to the members of this committee, and also considering that we have no right to ask for further service from the third member, the undersigned would simply report progress, and while still in sympathy with the objects to be attained, they respectfully ask that they be relieved from the duty and other members of the section be appointed in their places.

Lucien Howe.
William H. Wilder.

After considerable discussion the committee appointed to report on the recommendations contained in the Chairman's address reported as follows:

Report of Committee on Chairman's Address

Your committee to which was referred the Chairman's address on "The Ophthalmologic Qualifications of the General Practitioner and Ophthalmologist" respectfully begs leave to recommend the following:

1. Every general practitioner should have that training in ophthalmology which will enable him to manage infectious diseases of the eye and its simple refractive defects. To obtain this qualification medical colleges should make such training obligatory and state boards of registration demand it as a condition for license.

2. Every general practitioner who desires to become an ophthalmologist should add to his training a comprehensive training in ophthalmology, experimental work in the laboratory and personal clinical experience in a hospital or private office. To insure these qualifications there should be appointed on each state board of registration at least one ophthalmologist to examine applicants for a license to practice ophthalmology.

3. If these recommendations be approved by the Section it is respectfully urged that a committee of three be appointed by the Chairman to study the subject and report its findings of the detailed measures necessary to secure trained family physicians and ophthalmologists adequate for the needs of all the people when suffering from ocular disabilities.

Leartus Connor,
J. Thorington,
A. R. Baker.

The above report was adopted by the Section and the above named gentlemen were appointed on the committee provided for in the report.

The following officers were elected: Chairman, Dr. W. C. Posey, Philadelphia; vice-chairman, Dr. Hiram Woods, Baltimore; secretary, Dr. A. E. Bulson, Jr., Ft. Wayne, Ind.; delegate, Dr. T. Woodruff, Chicago.

Dr. C. F. Clark, Columbus, offered the following resolution:

> *Resolved*, That a special committee be appointed by the Chairman to investigate and report on the so-called "Smith-Indian" operation, with special reference to the ultimate or remote condition of eyes operated on by this method as compared with other methods; this committee to report progress each year for three years.

On motion the resolution was adopted. The Chairman later appointed on that committee Drs. D. W. Greene, Dayton, chairman; Arnold Knapp, New York City; Edward Jackson, Denver; Casey Wood, Chicago, and W. R. Parker, Ann Arbor.

Dr. Arnold Knapp, New York City, read a paper on "Operative Treatment of Glaucoma by Cyclodialysis." Discussed by Drs. E. V. L. Brown, Chicago; W. H. Wilder, Chicago, and H. Gifford, Omaha.

Dr. Charles S. Bull, New York City, read a paper on "Management of Acute Hemorrhagic Glaucoma in the Presence of Advanced Arteriosclerosis." Discussed by Drs. Myles Standish, Boston; Edward Jackson, Denver; Melville Black, Denver; F. H. Verhoeff, Boston; R. L. Randolph, Baltimore, and D. W. Greene, Dayton.

Dr. Mortimer Frank, Chicago, read a paper on "Primary Hemorrhagic Glaucoma with Probable Sympathetic Inflammation." Discussed by Drs. S. D. Risley, Philadelphia; W. L. Pyle, Philadelphia; H. Gifford, Omaha; E. V. L. Brown, Chicago; G. H. Price, Nashville; F. H. Verhoeff, Boston, and Frank.

Dr. John Green, St. Louis, read a paper on "Nodular Opacity of Cornea; Etiology." Discussed by Drs. A. E. Shumway, Philadelphia; William Zentmayer, Philadelphia, and Oscar Wilkinson, Washington.

Dr. Mark D. Stevenson, Akron, O., read a paper on "Practical Importance of Hyperphoria in Prescribing Lenses for Use at Particular Distances and in Different Directions." With exhibition of instrument for testing hyperphoria. Discussed by Drs. Alexander Duane, New York City; G. H. Savage, Memphis; W. H. Roberts, Pasadena; W. C. Posey, Philadelphia; William Zentmayer, Philadelphia; E. E. Holt, Portland, Me., and Stevenson.

Dr. Lucien Howe, Buffalo, read a paper on "Tenotomy or Advancement." Discussed by Drs. F. C. Todd, Minneapolis; E. E. Holt, Portland, Me.; Alexander Duane, New York City; W. R. Broughton, New York City; G. H. Savage, Memphis, and Francis Valk, New York City.

Thursday, June 10—Afternoon

The Chairman appointed on the committee on legislation concerning opticians, Drs. John C. Bossidy, Boston, chairman; A. R. Baker, Cleveland, and J. Thorington, Philadelphia.

Dr. W. H. Wilder, Chicago, moved that the officers of the Section be requested to prepare some suitable resolutions of appreciation and respect for the work of the late Dr. F. C. Hotz of Chicago, for ophthalmology and for the Section and transmit the same to his family and spread them on the minutes of the Section. The motion was carried.

On motion of Dr. Lucien Howe, Buffalo, the secretary of the Section was directed to thank General George E. Sternberg for his services on the committee on opticians.

Dr. R. L. Randolph, Baltimore, offered the following resolution, which was adopted:

> *Resolved*, That the action of the Chairman of this section in appointing committees for the collective investigation of certain questions be hereby confirmed and authority given for the continuation of such studies as long as those committees engage actively in the work assigned to them.

The report of the Committee on Collective Investigation Concerning the Ocular Muscles was presented as printed in the presession book.

The preliminary report of the Committee for the Study of the Relation of Tuberculosis to Certain Diseases of the Eye was presented.

Dr. George E. de Schweinitz, Philadelphia, read a paper on "Operative Treatment of Papilledema Dependent on Increased Intracranial Tension." Discussed by Drs. James Bordley, Jr., Baltimore, and Holloway, Philadelphia.

Dr. Charles H. Frazier, Philadelphia, read a paper on "Surgical Aspects of Cerebral Decompression." Discussed by Drs. Sterer, Pittsburg; R. L. Randolph, Baltimore; William H. Spiller, Philadelphia; W. H. Wilder, Chicago; A. E. Bulson, Jr., Ft. Wayne; Randall, Philadelphia; Emerson; Black, Milwaukee; de Schweinitz, Philadelphia, and Frazier.

On the statement of Dr. A. E. Bulson, the secretary, as to the inadequacy of the facilities offered at the meeting place of the Section, the Section adopted a resolution that the Trustees of the American Medical Association should be requested to furnish all proper facilities and appliances for carrying on the work of the Section.

Dr. G. S. Derby, Boston, and Dr. T. H. Ayer, Westboro, Mass., presented a paper on "A Clinical Investigation on the Relationship of Tuberculosis to Certain Diseases of the Eye." Discussed by Drs. W. H. Wilder, Chicago; W. C. Posey, Philadelphia, and Derby.

Dr. F. H. Verhoeff, Boston, read a paper on "Neuropathic Keratitis and Some Allied Conditions, with Special Reference to Treatment." Discussed by Drs. William Zentmayer, Philadelphia, and Verhoeff.

Dr. L. D. Brose, Evansville, Ind., read a paper on "Lachrymal Gland Tumors."

Dr. de Schweinitz moved a vote of thanks to the officers of the Section, and after the introduction of the new officers the meeting adjourned.

SECTION ON LARYNGOLOGY AND OTOLOGY

Tuesday, June 8—Afternoon

The meeting was called to order at 2:30 p. m., the President, Dr. W. Sohier Bryant, New York City, presiding.

In the absence of Dr. Otto T. Freer, Chicago, member of the Executive Committee, the chair appointed Dr. Barnhill, Indianapolis, to serve in his place.

Dr. W. Sohier Bryant, New York, delivered the Presidential address.

Dr. John O. Roe, Rochester, read a paper on "Treatment of Palatopharyngeal Adhesions, New Operation for Their Successful Relief." Discussed by Drs. W. E. Casselberry, Chicago; Willis S. Anderson, Detroit; Cullen F. Welty, San Francisco; Scholtz, St. Louis; Dunbar Roy, Atlanta; Sidney Yankhauer, New York City; W. W. Carter, New York City; George W. Mitchell, Baltimore; and Roe.

Dr. A. H. Miller, Providence, read a paper on "A New and Satisfactory Apparatus for Etherization in Operations About the Face and Upper Air Passages." Discussed by Drs. Joseph A. Stucky, Lexington, Ky.; Kate W. Baldwin, Philadelphia; John O. Roe, Rochester; Cullen F. Welty, San Francisco; Sylvan Rosenheim, Baltimore; Rupert, Philadelphia; Joseph A. White, Richmond; Burt Russell Shurly, Detroit, and Miller.

Dr. Richard H. Johnson, Baltimore, read a paper on "Benign Tumors of the Turbinated Bodies Clinically and Pathologically Considered." Discussed by Drs. Sylvan Rosenheim, Baltimore; George Frederick Keiper, Lafayette, Ind.; James E. Logan, Kansas City; Lobar, New York City; Scholtz, St. Louis; Jacques Holinger, Chicago; Emil Mayer, New York City; Stanley Miner, Detroit; T. W. Corwin, Newark; W. E. Sauer, St. Louis; Lee Cohen, Baltimore; B. Alexander Randall, Philadelphia, and Johnson.

Dr. William W. Carter, New York, read a paper on "Correction of Nasal Deformities." Discussed by Drs. John O. Roe, Rochester; Cullen F. Welty, San Francisco; R. H. Good, Chicago, and Carter.

Dr. W. E. Casselberry, Chicago, exhibited an instrument for tamponing the nasal fossæ and a self-retaining quadrivalvular nasal speculum.

Wednesday, June 9—Morning

The following papers were read and discussed as a "Symposium on Faucial Tonsils:"

Dr. C. M. Robertson, Chicago, "Anatomic and Physiologic Considerations Relating to the Faucial Tonsils."

Dr. Emil Mayer, New York City, "Conditions in the Faucial Tonsils Which Call for Operative Interference."

Dr. Norval H. Pierce, Chicago, "A Discussion of the Methods of Operating on the Faucial Tonsils."

Dr. Francis R. Packard, Philadelphia, "General Anesthesia for Tonsil Adenoid Operations."

Dr. Lee Cohen, Baltimore, "Postoperative Tonsillar Bleeding; Its Surgical Control, with Mention of Cases."

Discussed by Drs. Frank C. Todd, Minneapolis; Chevalier Q. Jackson, Pittsburg; F. Gurney Stubbs, Chicago; W. E. Casselberry, Chicago; Cullen F. Welty, San Francisco; George L. Richards, Fall River, Mass.; John F. Barnhill, Indianapolis; Mark D. Stevenson, Akron, O.; Joseph H. Abraham, New York City; P. Friedenberg, New York City; F. E. V. Shore, Des Moines; Oliver Tydings, Chicago; Oscar Wilkinson, Washington, D. C.; W. W. Carter, New York City; Sidney Yankhauer, New York City; Joseph A. White, Richmond; Dennis J. McDonald, New York City; Norton L. Wilson, Elizabeth, N. Y., and the essayists.

Wednesday, June 9—Afternoon

Dr. Charles R. C. Borden, Boston, read a paper on "Fracture of the Base of the Skull." Discussed by Drs. John F. Barnhill, Indianapolis; Cullen F. Welty, San Francisco; E. A. Crockett, Boston; Jacques Holinger, Chicago; John J. Kyle, Indianapolis; S. MacCuen Smith, Philadelphia; John M. Foster, Denver; George E. Shambaugh, Chicago; B. Alexander Randall, Philadelphia; Glogan, New York City; Davis, New York City; *Cullen F. Welty, San Francisco, and Borden.*

Dr. C. G. Coakley, New York City, read a paper on "Diseased Conditions Involving the Nasal Accessory Sinuses in Which an External Operation Is Indicated."

Dr. David B. Kyle, Philadelphia, read a paper on "Occurrence of Acute Inflammation of the Nasal Accessory Sinuses, Symptoms and Treatment."

Dr. H. W. Loeb, St. Louis, read a paper on "Suppurative Accessory Sinus Diseases in Which an Intranasal Operation Is Indicated."

These three papers were discussed by Drs. Ross H. Skillern, Philadelphia; Joseph A. Stucky, Lexington, Ky.; R. H. Good, Chicago; Burt Russell Shurly, Detroit; P. Friedenberg, New York City; G. H. Makuen, Philadelphia; W. H. Schultz, St. Louis; Charles M. Robertson, Chicago; E. A. Crockett, Boston; G. M. Case, Elmira, N. Y.; Cullen F. Welty, San Francisco; Coakley, Kyle and Loeb.

Dr. William R. Murray, Minneapolis, read a paper on "Presence of Vincent's Spirillum and *Bacillus Fusiformis* in Pseudomembranous Anginas." Discussed by Drs. Frank C. Todd, Minneapolis; Samuel Iglauer, Cincinnati; E. H. Porter, Tiffin, Ohio; Joseph A. Stucky, Lexington, Ky., and Murray.

Thursday, June 10—Morning

The following officers were elected: Chairman, Chevalier Jackson, Pittsburg; vice-chairman, George F. Cott, Buffalo; secretary, George E. Shambaugh, Chicago; delegate, D. Braden Kyle, Philadelphia; executive committee, W. Sohier Bryant, New York City; S. MacCuen Smith, Philadelphia, and H. W. Loeb, St. Louis.

Dr. George F. Cott, Buffalo, read a paper on "Two Cases of Infectious Labyrinthitis." Discussed by Drs. Jacques Holinger, Chicago; S. MacCuen Smith, Philadelphia; George E. Shambaugh, Chicago; Glogan, New York; J. F. Fairbairn, Buffalo; B. Alexander Randall, Philadelphia, and Drs. Kerrison of New York and Cott of Buffalo.

Dr. Samuel Iglauer, Cincinnati, read a paper on "X-Ray Examination of the Mastoid." Discussed by Drs. Sydney Lange, Cincinnati; W. H. Schultz, St. Louis; Jacques Holinger, Chicago; B. Alexander Randall, Philadelphia; Cullen F. Welty, San Francisco; Frank Allport, Chicago; S. MacCuen Smith, Philadelphia, and Iglauer.

Dr. A. B. Duel, New York City, read a paper on "Symptoms of the Intracranial Complications Occurring in Chronic Suppurative Otitis Media."

Dr. B. A. Randall, Philadelphia, read a paper on "Indications for Tympanomastoid Exenteration in Cases of Chronic Suppurative Otitis Media Where There Is Absence of Evidence of an Intracranial Complication."

Dr. Eugene A. Crockett, Boston, read a paper on "Conditions Which Constitute Contraindications to the Tympanomastoid Exenteration in Cases of Chronic Suppurative Otitis Media."

These three papers were discussed by Drs. S. MacCuen Smith, Philadelphia; Joseph A. Stucky, Lexington, Ky.; W. H. Schultz, St. Louis; Cullen F. Welty, San Francisco; E. C. Ellett, Memphis; Amos R. Solenberger, Colorado Springs; George E. Shambaugh, Chicago; Samuel L. Ledbetter, Birmingham; Duel, Randall and Crockett.

Thursday, June 10—Afternoon

Dr. Daniel W. Layman, Indianapolis, exhibited a new tonsil knife with a guard and pillar retractor attachment.

Dr. Henry Hager Martin, Savannah, exhibited a modification of the Kratzmüller snare.

Dr. Hays, New York City, demonstrated his pharyngoscope.

Dr. Chevalier Jackson, Pittsburg, presented a paper on "A Ten-Minute Demonstration of Bronchoscopy," which, in his absence, was read by Dr. Joseph A. Stucky, Lexington, Ky., who also exhibited skiagrams and drawings. Discussed by Drs. Richard Hall Johnson, Baltimore; Thomas, Philadelphia; Burt Russell Shurly, Detroit; W. H. Schutz, St. Louis, and Fletcher, Chicago.

Dr. E. P. Fowler, New York City, read a paper on "The Physiology of the Eustachian Tube." Discussed by Drs. Jacques Holinger, Chicago; George E. Shambaugh, Chicago, and Fowler.

Mr. John D. Wright, New York City, read a paper on "The Deaf Child and the Physician." Discussed by Drs. S. Mac-

Cuen Smith, Philadelphia; Arthur B. Duel, New York; Dennis J. McDonald, New York; Jacques Holinger, Chicago, and Wright.

By motion of Dr. Delevan, a committee of three was appointed, consisting of Drs. John L. Adams, New York City; Dunbar Roy, Atlanta, and R. B. Shurly, Detroit, to draft resolutions that may be helpful in arousing greater interest in the training of the deaf in public schools. The motion as amended was carried.

By motion the Section voted an expression of thanks to Mr. Wright for his presentation of the subject.

The Section then adjourned.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

Tuesday, June 8—Afternoon

The Section was called to order at 2:30 p. m., in the First Baptist Church by the chairman, Dr. J. H. White, New Orleans. In the absence of the secretary, Dr. Marshall Price, Baltimore, was designated secretary *pro tem.*

The Chairman read his address.

Dr. J. N. McCormack, Bowling Green, Ky., delivered his remarks *extempore* on "The Importance of Consolidation of all the National Health Associations Into the Section on Hygiene and Sanitary Science with the Purpose of Making It What It Should Be."

Dr. H. M. Bracken, St. Paul, Minn., read a paper on "The Relation of the Medical Profession to Preventive Medicine."

These two papers were discussed by Drs. George M. Sternberg, Washington; William Porter, St. Louis; Marshall Price, Baltimore; Henry B. Hemenway, Evanston, Ill.; W. A. Evans, Chicago, and Bracken.

Dr. Marshall Price offered the following resolution, which was passed and referred to the House of Delegates:

> *Resolved,* That the Chairman appoint a committee of three to consider means of cooperation with the American Public Health Association and the Conference of State and Provincial Boards of Health, and that in addition to these three members the Chairman be also *ex officio* a member.

Dr. Hemenway offered a resolution relative to the amount of time devoted to sanitary science in medical colleges. This appeared in the minutes of the House of Delegates, The Journal, June 19, 1909, p. 2083.

Dr. Hemenway also offered the following resolution, which was passed and referred to the House of Delegates:

> *Resolved,* That the representative on Hygiene and Sanitary Science in the House of Delegates be instructed to ask that a permanent council on sanitary science be appointed by the American Medical Association and that a special department on sanitary science be regularly maintained in The Journal of the Association under supervision of this council.
>
> *Resolved,* That the Association be requested to appropriate a suitable sum of money for the use of the council on sanitary science.

Dr. S. A. Knopf, New York City, read a paper on "A New Type of Phthisiophobia." The paper was received without discussion.

Wednesday, June 9—Afternoon

Dr. Harry C. Sharp, Indianapolis, read a paper on "Vasectomy as the Means of Preventing Procreation in the Defectives." Discussed by Drs. Liston H. Montgomery, Chicago; Ferd. C. Valentine, New York City; W. Forrest Dutton, Walker's Mills, Pa.; Woods Hutchinson, New York City; C. A. Rosenwasser, Newark, N. J.; George N. Jack, Buffalo; J. N. Hurty, Indianapolis, and Sharp.

Dr. W. A. Evans, Chicago, read a paper on "Lake Michigan Water for Drinking Purposes."

Dr. Harold B. Wood, Philadelphia, read a paper on "The Economic Value of Protecting the Water Supplies."

These two papers were discussed by Drs. W. K. Jaques, Chicago; Liston H. Montgomery, Chicago; W. Forrest Dutton, Walker's Mills, Pa.; Seneca Egbert, Philadelphia; Marshall Langton Price, Baltimore; John S. Fulton, Baltimore; Arnold, U. S. Navy; F. W. Sell, Rahway, N. J.; J. H. White, New Orleans; Evans and Wood.

Thursday, June 10—Morning

The following officers were elected: Chairman, Dr. J. N. Hurty, Indianapolis; vice-chairman, Dr. C. F. Williams, Columbia, S. C.; secretary (three years), Dr. M. Langton Price, Baltimore; delegate, Dr. J. H. White, New Orleans; alternate, Dr. C. L. Wheaton, Chicago; orator, Dr. Seneca Egbert, Philadelphia.

The Chairman, empowered by a motion offered by Dr. Henry B. Hemenway, Evanston, Ill., appointed Drs. H. M. Bracken, W. A. Evans and Seneca Egbert a committee to cooperate for one year with the Committee on Legislation, through its bureau.

Dr. Francis H. Slack, Boston, was, on the suggestion of Dr. H. M. Bracken, St. Paul, appointed secretary of the Section in the temporary absence of Dr. Price, acting secretary.

Dr. John W. Kerr read a paper conjointly by himself and Dr. J. W. Stimson: "The Prevalence of Rabies in the United States." Discussed by Drs. H. M. Bracken, St. Paul; W. A. Evans, Chicago; W. M. Brumby, Austin, Tex.; whereupon Chairman White, before absenting himself temporarily, vacated the chair in favor of Dr. Bracken. Additional discussants were Drs. John F. Anderson, U. S. P. H. and M.-H. S.; W. Forrest Dutton, Walker's Mills, Pa.; Gates, U. S. Navy; Kerr; W. H. Sanders, Mobile, Ala.; J. N. Hurty, Indiana; Liston H. Montgomery, Chicago, Ill.; Martin Friedrich, Cleveland, Ohio; William Litterer, Nashville, Tenn.; A. C. Abbott, Philadelphia; Guiteras, Havana, Cuba.

Dr. Price, acting secretary, adverting to his election, during his absence, as secretary for three years, gave notice that he could not serve for more than one year, ensuing.

Dr. W. Forrest Dutton, Walker's Mills, Pa., read a paper on "Insect Carriers of Typhoid Fever."

Dr. Willard J. Stone, Toledo, Ohio, read a paper on Typhoid Immunity and Antityphoid Inoculations."

Dr. L. L. Lumsden, U. S. P. H. and M.-H S., read a paper on "Epidemiologic Status of Typhoid Fever."

These three papers were discussed by Drs. George M. Sternberg, Surgeon General, U. S. Army; Henry B. Hemenway, Evanston, Ill.; Guiteras, Havana, Cuba; A. C. Abbott. Philadelphia: Liston H. Montgomery, Chicago; Seneca Egbert, Philadelphia; J. N. Hurty, Indianapolis; Freeman, Virginia; Russell, U. S. Army; J. B. Bullitt, University, Miss.; Gardiner T. Swartz, Providence, R. I.; Martin Friedrich, Cleveland, Ohio; H. M. Bracken, St. Paul; Dutton and Lumsden.

Two resolutions were adopted and referred to the House of Delegates: One offered by Dr. W. M. Brumby, Austin, Tex., seconded by Dr. Gardner T. Swartz, Providence, R. I., providing that all county, district and other local medical societies be requested to hold annually one or more open meetings to which the public shall be invited; the other, offered by Dr. John S. Fulton, Baltimore, seconded by Dr. Price, concerning the collection of vital statistics. [Action by the House of Delegates on these matters is recorded on page 2083 of The Journal, June 19.]

Thursday, June 10—Afternoon

Dr. Seale Harris, Mobile, Ala., read a paper on "The Prevention of Malaria." Discussed by Drs. Marshall Langton Price, Baltimore; Henry B. Hemenway, Evanston, Ill.; W. Forrest Dutton, Walker's Mills, Pa.; Guiteras, Havana, Cuba; J. N. Hurty, Indianapolis; Seneca Egbert, Philadelphia; J. R. Kean, Havana, Cuba; Liston H. Montgomery, Chicago; J. H. White, New Orleans; Neale, Chicago; C. F. Williams, Columbia, S. C., and Harris.

Dr. Myer Solis Cohen, Philadelphia, read a paper on "The Notification to the Local Health Authorities of Cases of Abortion and Miscarriage." Discussed by Drs. W. Forrest Dutton, Walker's Mills, Pa.; Marshall Langton Price, Baltimore; J. N. Hurty, Indianapolis; Seneca Egbert, Philadelphia; W. M. Brumby, Austin, Tex.; C. H. Jones, Baltimore; Henry B. Hemenway. Evanston, Ill., and Cohen.

A resolution of regret was adopted concerning the unavoidable absence of Dr. Lewis, ex-chairman of the Section, with a request to the secretary that he communicate the resolution of regret to Dr. Lewis and the wish for his speedy recovery.

The written resignation, through illness of Dr. S. T. Armstrong as secretary for 1910 and 1911, the unexpired years of his term, was read and on motion accepted.

On motion of Dr. W. Forrest Dutton, Walker's Mills, Pa., the Section passed a vote of thanks to Dr. Armstrong for his services, with instructions that same be forwarded to him.

Dr. Francis Dowling, Cincinnati, read a paper on "The French Tobacco Factory at Issy, near Paris: Hygienic Notes." Discussed by Drs. W. Forrest Dutton and Dowling.

Dr. J. H. White, chairman, appointed Drs. Henry M. Bracken of Minnesota and Marshall Langton Price of Maryland as the two members of this Section to act in conjunction with the chairmen of three of the standing committees of the association in arranging for permanent legislation in the matter of having a council.

On motion of Dr. Liston H. Montgomery, Chicago, the Section passed a vote of thanks to the retiring chairman, Dr. J. H. White, for his courtesy and painstaking care and efficiency in the discharge of his functions; whereupon the Section adjourned, *sine die.*

SECTION ON NERVOUS AND MENTAL DISEASES

Tuesday, June 8—Afternoon

The meeting was called to order by the chairman, M. Allen Starr, New York City, who then read his address.

Sir James Grant of Ottawa, Can., addressed the Section on the subject of the Chairman's address on the nervous system.

Dr. D'Orsay Hecht, Chicago, read a paper on "Tumors of the Hypophysis." Discussed by Drs. Harvey Cushing, Baltimore; Maximilian Herzog, Chicago; George A. Moleen, Denver; William G. Spiller, Philadelphia; Sir James Grant, Ottawa, Can.; Hugh T. Patrick, Chicago; Julius Grinker, Chicago, and Hecht.

Dr. Theodore Diller and Dr. O. Gaub, Pittsburg, read a paper on "Successful Removal of a Cerebellar Tumor." Discussed by Drs. B. Sachs, New York City; Max Mailhouse, New Haven; George B. Moleen, Denver; B. R. Tucker, Richmond, Va.; T. U. McKennon, Pittsburg, and Diller.

Dr. William G. Spiller, Philadelphia, read a paper on "Brain Tumors."

Dr. T. H. Weisenburg, Philadelphia, read a paper on "Symptomatology of Tumors of the Posterior Portion of the Pons."

These two papers were discussed by Dr. Max Nonne, Hamburg, Germany; B. Sachs, New York City; Julius Grinker, Chicago; Theodore Diller, Pittsburg; Frank Woodbury, Philadelphia; James J. Putnam, Boston; Hugh T. Patrick, Chicago; D'Orsay Hecht, Chicago; Philip Zenner, Cincinnati; M. Allen Starr, New York City; Spiller and Weisenburg.

Wednesday, June 9—Morning

In the absence of Dr. Prince, Dr. Wolfstein was appointed member of the Executive Committee, the committee now consisting of Dr. Sinkler, Dr. Weisenburg and Dr. Wolfstein.

Dr. B. Sachs, New York City, read a paper on "The Wassermann Reaction, in Its Relation to Diseases of the Central Nervous System."

Dr. Max Nonne, Hamburg, Germany, read a paper on "The Practical Value of Lymphocytosis and the Globulin Reaction and the Complement Finding Reaction for Neurology."

Dr. Hideyo Noguchi, New York City, read a paper on "Serodiagnosis of Syphilis."

Dr. E. Castelli, New York City, read a paper on "The Wassermann Reaction."

These four papers were discussed by Drs. William J. Butler, Chicago; Frank E. Fox, Fulton, N. Y.; Jackson S. Wolf, St. Louis; Maximilian Herzog, Chicago, and Sachs.

Wednesday, June 9—Afternoon

The Chairman appointed Drs. Tomlinson, Sinkler and Wolfstein as a committee on nomination of officers.

Motion carried referring application for membership of Dr. W. A. White, of Washington, D. C., to Executive Committee.

Motion carried that Drs. B. Sachs, J. H. McBride and Morton Prince be appointed a committee to investigate the relation of public schools to health, committee to report at the meeting in 1910.

Dr. Hugh T. Patrick, Chicago, read a paper on "Facial Neuralgia Treated by Deep Injections of Alcohol; Seventy-five Cases." Discussed by Drs. D'Orsay Hecht, Chicago; B. R. Tucker, Richmond, Va.; C. L. Dana, New York, and Patrick.

Dr. James D. Putnam, Boston, read a paper on "A Side Light on the Syphilitic Etiology of Tabes." Discussed by Drs. C. L. Dana, New York City; F. W. Langdon, Cincinnati; C. C. C. Hersman, Pittsburg; E. D. Fisher, New York City; Julius Grinker, Chicago; A. C. Brush, Brooklyn; M. Allen Starr, New York City, and Putnam.

Dr. Charles L. Dana, New York City, read a paper on "The syndrome of Thalamus Hemorrhage." Discussed by Drs. Hugh T. Patrick, Chicago; H. A. Tomlinson, St. Peter, Minn.; Julius Grinker, Chicago, and Dana.

Dr. William A. Jones, Minneapolis, read a paper on "Report of Two Cases of Probable Spinal Cord Lesion Following Pasteur Treatment." Discussed by Drs. James J. Putnam, Boston, and Arthur S. Hamilton, Minneapolis.

Dr. E. D. Fisher, New York City, read a paper on "Optic Atrophy in Tabes; a Diagnostic Symptom in the Differential Diagnosis from General Paresis." Discussed by Drs. Charles K. Mills, Philadelphia; C. B. Burr, Flint, Mich.; George A. Moleen, Denver, and Fisher.

Dr. Charles W. Burr, Philadelphia, read a paper on "Muscular Effort in the Non-paralyzed Extremity on Attempting to Move the Paralyzed Extremity in Hemiplegia." Discussed by Drs. Julius Grinker, Chicago; Howell T. Pershing, Denver; C. F. Hoover, Cleveland, and Burr.

Dr. J. Ramsey Hunt, New York City, read a paper on "The Paralytic Complications of Herpes Zoster." Discussed by Drs. James A. Patterson, Colorado Springs, Colo.; Howell T. Pershing, Denver, and Hunt.

Dr. J. Madison Taylor, Philadelphia, read a paper on "Treatment of Occupation Neurosis and Neuritis in the Arms."

Thursday, June 10—Morning

The following officers of the Section were elected for the ensuing year: Chairman, Dr. Theodore Diller, Pittsburg; secretary, William A. Jones, Minneapolis; delegate, M. Allen Starr, New York City, with power to appoint alternate.

A motion carried recommending Dr. William A. White of Washington, D. C., to the House of Delegates for associate membership in this Section.

Dr. A. S. Hamilton, Minneapolis, read a paper on "The Effect of Intercurrent Disorders on Pre-existing Epilepsy." Discussed by Drs. Augustus A. Eshner, Philadelphia; M. L. Perry, Parsons, Kans., and Hamilton.

Dr. Charles K. Mills, Philadelphia, read a paper on "Simulated Insanity." Discussed by Drs. Alfred Gordon, Philadelphia; T. Diller, Pittsburg; L. L. Uhls, Ossawotomie, Kans.; Pearce Bailey, New York City; F. W. Langdon, Cincinnati; George A. Moleen, Denver; Carlos F. MacDonald, New York City, and Mills.

Dr. Pearce Bailey, New York City, read a paper on "The Practical Value of the Association Experiment." Discussed by Drs. A. C. Brush, Brooklyn; Max Mailhouse, New Haven; M. Allen Starr, New York City, and Bailey.

Dr. H. A. Tomlinson, St. Peter, Minn., read a paper on "A Clinical Study of a Series of Cases of Insanity." Discussed by Drs. T. Diller, Pittsburg, and Tomlinson.

Dr. Julius Grinker, Chicago, read a paper on "Diagnosis of Spinal Cord Tumors, with Report of a Case Operated on." Discussed by Drs. Pearce Bailey, New York City; Max Mailhouse, New Haven; Charles W. Hitchcock, Detroit; M. Allen Starr, New York City, and Grinker.

Dr. Alfred Gordon, Philadelphia, read a paper on "Medical *vs.* Legal Responsibility." Discussed by Drs. Charles W. Hitchcock, Detroit; A. C. Brush, Brooklyn, and Howell T. Pershing, Denver.

Thursday, June 10—Afternoon

Dr. L. Pierce Clark, New York City, read a paper on "Some Modern Problems in the Care and Treatment of Mental Defectives." Discussed by Drs. M. Allen Starr, New York City; H. A. Tomlinson, St. Peter, Minn.; William A. Jones, Minneapolis; E. E. Gaver, Columbus, Ohio; A. C. Brush, Brooklyn, and Clark.

Dr. A. C. Brush, Brooklyn, read a paper on "A Study of the Traumatic Insanities." Discussed by Drs. M. Allen Starr, New York City, and Brush.

Dr. E. E. Gaver, Columbus, Ohio, read a paper on "Traumatic Neuroses; with Report of Cases." Discussed by Drs. A. C. Brush, Brooklyn; G. T. Harding, Columbus, Ohio, and Gaver.

Dr. W. R. Dunton, Towson, Md., read a paper on "The Responsibility of Physicians in Cases Which Menace Public Safety." No discussion.

Dr. J. E. Goldthwaite, Boston, read a paper on "Some Points of Contact Between Neurology and Orthopedic Surgery." Discussed by Drs. M. Allen Starr, New York City; T. Diller, Pittsburg; Robert L. Pitfield, Germantown, Pa.; William A. Jones, Minneapolis, and Goldthwaite.

SECTION ON STOMATOLOGY

Tuesday, June 8—Afternoon

Address of the President, Dr. Edward C. Briggs, Boston. Discussed by Drs. Brown, Milwaukee, and Jackson, Atlantic City.

Dr. Thomas L. Gilmer, Chicago, read a paper on "Conservative Surgery for Treatment of Tumors of Mandible." Discussed by Drs. Edward C. Briggs, Boston; George V. I. Brown, Milwaukee, and Rhein, New York.

Dr. E. Mather Sill, New York City, read a paper on "A Study of Malnutrition in the School Child." Discussed by Drs. Eugene Talbot, Chicago; W. C. Wendell, Milwaukee; E. A. Bogue, New York City; Rhein, New York City; Zentler, New York City; G. V. I. Brown, Milwaukee; Fisher, New York City, and E. A. Bogue, New York City.

Wednesday, June 9—Morning

Dr. F. L. Stanton, New York City, read a paper on "The Rôle of the Teeth in Respiration." Discussed by Drs. E. A. Bogue, New York City; Eugene Talbot, Chicago; G. V. I. Brown, Milwaukee; Edward C. Briggs, Boston; Rhein, New York City, and Schamberg, New York City.

Dr. Alphonse Irwin, Camden, N. J., read a paper on "Oral Prophylaxis." Discussed by Drs. Zentler, New York City, and E. A. Bogue, New York City.

Dr. G. Hudson-Makuen, Philadelphia, read a paper on "The Tonsils and the Teeth." Discussed by Drs. F. L. Stanton, New York City; Schamberg, New York City; Charles K. Teter, Cleveland; G. V. I. Brown, Milwaukee; E. A. Bogue, New York City, and Eugene Talbot, Chicago.

Moved and seconded that Dr. Gilmer's paper be reread in its regular order on the program, on account of the small audience present when it was read. Carried. Dr. Gilmer refused to reread it, on the ground that it was to be published later, and it was not fair to take up the time of the others on the program.

Wednesday, June 9—Afternoon

Dr. G. Lenox Curtis, New York City, read a paper on "Report of Two Tertiary Cases." No discussion.

Dr. Arthur H. Dray, Philadelphia, read a paper on "General Therapeutics and Surgery in Dentistry." Discussed by Drs. Rhein, New York City; W. E. Fisher, New York City; Powers, Providence, R. I., and Allen, New Zealand.

Dr. W. Wayne Babcock, Philadelphia, read a paper on "The Treatment of Extreme Degrees of Malocclusion of the Teeth by Operation on the Ramus of the Inferior Maxillary Bone." Discussed by Drs. G. V. I. Brown, Milwaukee; McCurdy, Pittsburg; Schamberg, New York City; Nyman, Chicago, and E. A. Bogue, New York City.

Dr. Charles K. Teter, Cleveland, read a paper on "A Summary of 13,000 Nitrous Oxid and Oxygen Anesthetics."

Dr. L. G. Noel, Nashville, Tenn., read a paper on "Anesthetics for Dental Surgery."

These two papers were discussed by Drs. Eugene Talbot, Chicago; Küsel, Philadelphia; S. L. McCurdy, Pittsburg; Nyman, Chicago; Rhein, New York City, and Babcock, Philadelphia.

Thursday, June 10—Morning

The following officers were elected: Chairman, Dr. Thomas Gilmer, Chicago; vice-chairman, Dr. J. G. Sharp, San Francisco; secretary, Dr. Eugene S. Talbot, Chicago; delegate, Dr. George V. I. Brown, Milwaukee; alternate, Dr. Stewart L. McCurdy, Pittsburg.

Dr. Jos. Arkövy, Budapest, Hungary, was unanimously elected as an honorary member.

Dr. Fred. Hussey, Providence, R. I., read a paper on "Trifacial Neuralgia." Discussed by Drs. Eugene Talbot, Chicago; Rhein, New York City; Powers, Providence, R. I.; Schamberg, New York City; W. C. Wendell, Milwaukee, and E. A. Bogue, New York City.

Dr. E. A. Bogue, New York City, read a paper on "A Number of Cases in Which the Nasal Sinuses Have Been Enlarged by Orthodontia in Children." Discussed by Drs. Eugene Talbot, Chicago; Rhein, New York City; G. V. I. Brown, Milwaukee, and Zentler, New York City.

Dr. Robert T. Oliver, West Point, read a paper on "A Method of Treating Mandibular Fractures." Discussed by Drs. Schamberg, New York City; Powers, Providence, R. I.; G. V. I. Brown, Milwaukee; Rhein, New York City; Fisher, New York City, and McCurdy, Pittsburg.

Thursday, June 10—Afternoon

Dr. G. E. Pfahler, Philadelphia, read a paper on "Dental Roentgenology." Discussed by Drs. Schamberg, New York City; Blaine; Dray, Philadelphia; Teter, Cleveland; Zentler, New York City, and McCurdy, Pittsburg.

Dr. H. H. Germain, Boston, read a paper on "Osteomyelitis of the Jaw." Discussed by Drs. G. V. I. Brown, Milwaukee; Eugene Talbot, Chicago; McCurdy, Pittsburg; Schamberg, New York City, and Robert T. Oliver, West Point, N. Y.

Dr. G. V. I. Brown, Milwaukee, read a paper on "The Surgery of Cleft Palate." Discussed by Drs. Oliver, West Point; McCurdy, Pittsburg; Germain, Boston, and Schamberg, New York City.

Dr. R. R. Andrews, Cambridge, Mass., read a paper on "Enamel and Its Vitality." No discussion.

Dr. Brown asked that the Committee on Vital Statistics be continued for another year.

Dr. Schamberg presented a resolution, which was adopted, which requested the House of Delegates to recommend to state and municipal authorities the establishment of free dental clinics for the poor.

Dr. Bogue presented a resolution to inform the Section of Hygiene of the Mouth of the Fifth International Congress, which is to meet in Berlin in August, that this Section has expressed itself in favor of the creation and support by the state and municipalities of free dental clinics. Adopted.

SECTION ON DISEASES OF CHILDREN

Tuesday, June 8—Afternoon

The Section was called to order at 2:30 p. m. by the chairman, Dr. Thomas S. Southworth, New York City.

Dr. Thomas S. Southworth, New York City, read the chairman's address, "The Field for Prophylaxis Among Children."

In the absence of Dr. J. Ross Snyder, Birmingham, Ala., the Chairman appointed Dr. Samuel W. Kelley, of Cleveland, to fill his place on the Executive Committee.

Dr. Walter Lester Carr, New York City, read a paper on "Transitory Urinary Findings, Associated with Some Diseases of Childhood." Discussed by Drs. John Lovett Morse, Boston, and Frank S. Churchill, Chicago, and Carr.

Dr. John Ruhräh, Baltimore, read a paper on "Food Intoxication in Childhood." No discussion.

Dr. I. A. Abt, Chicago, presented a paper on "Infantile Eczema. Some Recent Views Concerning Its Pathology and Etiology." In Dr. Abt's absence his paper was, on motion, read by Dr. W. W. Butterworth. Discussed by Dr. D. E. English, Milburn, N. J.

Dr. W. W. Butterworth, New Orleans, read a paper on "Hair-Ball or Hair Cast of the Stomach and Its Occurrence in Children." Discussed by Dr. John Ruhräh, Baltimore; Dr. R. D. Gilbert, Louisville, Ky., and Butterworth.

Dr. Rowland Godfrey Freeman, New York City, read a paper on "Adenoid Hypertrophy During the First Year of Life and Its Treatment." Discussed by Drs. Richards, Fall River, Mass.; Henry L. Coit, Newark; John Lovett Morse, Boston; Frank S. Churchill, Chicago; D. J. M. Miller, Atlantic City; Samuel W. Kelley, Cleveland; Walter D. Ludlum, Brooklyn; S. McC. Hamill, Philadelphia, and Freeman.

Dr. Samuel W. Kelley called attention to the fact that the Council on Education, working on the curriculum for medical schools, had placed pediatrics under the same chair with medicine and neurology. It seemed time for those interested in diseases of children to use what influence they might possess for a proper recognition of the importance of this branch and have set aside a sufficient number of hours for the teaching of pediatrics. After some discussion on the subject, a committee composed of Dr. S. W. Kelley, Dr. A. C. Cotton and Dr. W. W. Butterworth were appointed to consider this matter and report on Wednesday.

Wednesday, June 9—Morning

The Section was called to order at 9:20 a. m. by the chairman, Dr. Thomas S. Southworth.

The Committee on Teaching of the Diseases of Children recommended that the Section adopt the following resolution:

> *Resolved,* 1. That pediatrics should be represented in the curriculum by a full professorship independent of any other chair. 2. That the study of pediatrics should be compulsory, that is, required for graduation. 3. That the time allowance for the course in pediatrics should not be less than 200 hours. 4. That we further recommend that a committee of this kind should be continued, with power to act at any time during the year, when expedient.

It was moved by Dr. LeGrand Kerr of Brooklyn, seconded and carried, that the report be received and adopted as read.

Dr. Charles Hunter Dunn, Boston, read a paper on "The Treatment with Living Lactic Acid Bacilli of Summer Diarrheas Due to Intestinal Fermentation." Discussed by Drs. J. P. C. Griffith, Philadelphia; Elias Bartley, Brooklyn; T. M. Rotch, Boston; John Lovett Morse, Boston; Frank P. Gengenbach, Denver; Le Grand Kerr, Brooklyn; and Dunn.

Dr. J. P. Crozer Griffith, Philadelphia, read a paper entitled, "Post Hoc Non Ergo Propter Hoc." Discussed by Drs. Theodore J. Elterich, Pittsburg; Theodore Le Boutillier, Philadelphia; Little, Brooklyn, and Griffith.

Dr. Frank Spooner Churchill, Chicago, read a paper on "The Treatment of Epidemic Meningitis with the Flexner Serum." Discussed by Drs. Charles Hunter Dunn, Boston; Alfred Hand, Philadelphia; Frank Allen, Chicago; William M. Welch, Philadelphia; George Scott, New York City, and Churchill.

Dr. John Lovett Morse, Boston, read a paper on "The Treatment of Anemia in Infancy with Citrate of Iron Subcutaneously." No discussion.

Dr. Theodore Le Boutillier, Philadelphia, read a paper on "Sea-Water Treatment, Given by Subcutaneous Injection, with the Results Obtained in Children." Discussed by Drs. George Scott, New York City, and Le Boutillier.

Dr. Alfred F. Hess, New York City, read a paper on "Middle-Milk Mixtures." Discussed by Drs. Frank S. Churchill, Chicago; L. T. Royster, Norfolk; Frank W. Pinneo, Newark; J. J. Thomas, Cleveland, and Hess.

Wednesday, June 9—Afternoon

Dr. Henry Dwight Chapin, New York City, read a paper on "The Relation Between the Science and Art of Infant Feeding." Discussed by Drs. J. W. Van Derslice, Oak Park, Ill., and Chapin.

Dr. L. Emmett Holt, New York City, read a paper on "Infant Mortality. The Factors Which Compose it and How These May Be Influenced." Discussed by Drs. Koplik, New York City; Edwin E. Graham, Philadelphia; E. Lackner, Chicago; H. W. Cook, Minneapolis; C. G. Kerley, New York City; Henry L. Coit, Newark; Frank S. Churchill, Chicago; J. W. Van Derslice, Oak Park, Ill.; Alfred Hess, New York City; C. F. Tanney, Toledo, and Holt.

Dr. E. Lackner, Chicago, read a paper entitled "Heubner's System of Infant Feeding Based on Calories and Low Fat."

Dr. Henry I. Bowditch, Boston, read a paper on "A Convenient Method for Determining Caloric Values of Formulas Based on Percentage Feeding of Infants."

These two papers were discussed by Drs. Koplik, New York City; L. T. Royster, Norfolk; C. Griffith, Philadelphia; F. S. Churchill, Chicago; H. D. Chapin, New York City; C. G. Kerley, New York City; C. Douglas, Detroit; W. D. Ludlum, Brooklyn; D. J. M. Miller, Atlantic City; A. C. Cotton, Chicago; John Lovett Morse, Boston; H. T. Price, Pittsburg; J. W. VanDerslice, Chicago; Lackner and Bowditch.

Dr. Henry L. K. Shaw, Albany, read a paper on "The Transmission of Bovine Tuberculosis to Children." Discussed by Drs. William H. Park, New York; Alfred Hess, New York; S. McC. Hamill, Philadelphia, and Shaw.

Dr. J. M. Miller, Atlantic City, read a paper on "History of Two Cases of Congenital Pyloric Spasm, with Remarks on the Treatment and Etiology of the Condition." Discussed by Drs. A. C. Cotton, Chicago; H. M. McClanahan, Omaha; and Miller.

Thursday, June 10—Morning

The Chairman stated that at the meeting in Chicago, in 1908, a committee on nomenclature had been appointed at the close of the session, the names not having been announced. This committee was composed of Dr. Thomas Morgan Rotch, Boston, chairman, and Dr. Charles Hunter Dunn, Boston.

The Nominating Committee reported as follows: Chairman, Dr. William J. Butler, Chicago; secretary, Dr. G. R. Pisek, New York City; delegate, Dr. C. Douglas, Detroit. It was moved, duly seconded, and carried that the nominations be accepted.

The report of the Committee on the Status of Breast Fed Infants was called for, but none of the members of the committee was present.

The report of the committee composed of Dr. Arthur Fairbanks, Boston; Dr. J. W. Van Derslice, Chicago; and Dr. G. H. Cattermole, Boulder, Colo., appointed to inquire into the Status of the School Child, was called for. The Chairman announced that Dr. A. Fairbanks had sent his report.

It was moved by Dr. W. W. Butterworth, seconded by Dr. C. G. Kerley, and carried, that the report of Dr. A. Fairbanks be referred to the Executive Committee. Dr. J. W. Van Derslice's report as a member of the committee was postponed until after the reading of Dr. W. C. Hollopeter's paper.

Dr. W. C. Hollopeter, Philadelphia, read a paper on "The Child's Breakfast."

Dr. J. W. Van Derslice, Chicago, read a paper on "Conditions of the Public School Child."

These two papers were discussed by Drs. L. T. Royster, Norfolk; C. Douglas, Detroit; Little, Brooklyn; C. G. Kerley, New York City; Helen C. Putnam, Providence, R. I.; Henry I. Bowditch, Boston; E. C. Hackett, Chicago; Hollopeter, and Van Derslice.

Dr. Van Derslice stated it was impossible for the Section to devote enough time to cover the entire subject, he therefore moved that there by appointeed a Committee on School Hygiene to bring before the Section from time to time certain phases of the school question.

It was moved by Dr. J. W. Van Derslice, and seconded by Dr. W. C. Hollopeter that the report of the Committee on the Status of the School Child be accepted and the committee be discharged. Motion was carrieed.

The Chairman appointed a committee composed of Dr. J. W. Van Derslice, Chicago; Dr. W. C. Hollopeter, Philadelphia; and Dr. W. W. Butterworth, New Orleans, to consider the matter of school hygiene.

Dr. Maurice Ostheimer, Philadelphia, read a paper on "Help the Mother Nurse Her Child. A Plea to Physicians Not to Begin Artificial Feeding Without First Trying to Help the Mother Maintain Her Milk Supply." Discussed by Drs. H. M. McClanahan, Omaha; J. P. Sedgwick, Minneapolis; L. D. Bulkley, New York City; A. F. Furrer, Cleveland; J. W. Van Derslice, Chicago; Charles Douglas, Detroit; John Lovett Morse, Boston; Frank P. Gengenbach, Denver; Thomas S. Southworth, New York City; J. H. Lopez, Philadelphia, and Ostheimer.

Dr. Colman W. Cutler, New York City, read a paper on "Opacities of the Cornea. Their Frequency in Children from Preventable Causes and Their Effect on Vision." No discussion.

Dr. L. T. Royster, Norfolk, read a paper on "Syphilitic Pseudoparalysis." No discussion.

Dr. Charles Gilmore Kerley read a paper on "Vaccine and Serum Therapy in Diseases of Children."

Dr. William J. Butler, Chicago, read a paper on "The Antibodies in Tuberculosis. Their Relation to Tuberculin Inoculation and Vaccination."

These two papers were discussed by Drs. H. I. Bowditch, Boston; J. B. Sedgwick, Minneapolis, and Butler.

Thursday, June 10—Afternoon

Dr. M. H. Fussell, Dr. R. S. McCombs and Dr. G. E. de Schweinitz, Philadelphia, gave an "Exhibition of a Patient with Achondroplasia, with Notes on the Disease" (presentation of two living subjects and an achondroplastic skeleton). Discussed by Drs. Pancoast, Philadelphia; R. S. McCombs, Philadelphia; D. J. M. Miller, Atlantic City; Emerson, Baltimore; L. T. Royster, Norfolk; de Schweinitz and Fussell.

Dr. Linnaeus La Fetra, New York City, read a paper on "Suppurative Conditions in Joint Regions in Infants." Discussed by Dr. Charles N. Dowd, New York City.

Dr. Charles N. Dowd, New York City, read a paper on "Persistent Thoracic Sinus Following Empyema." Discussed by Drs. Carl Beck, Chicago; C. G. Kerley, New York City; L. E. La Fetra, New York City, and Dowd.

Dr. Julius Rudisch, New York City, read a paper on "The Treatment of Diabetes Mellitus." Discussed by Drs. A. Jacobi, New York City; C. G. Kerley, New York City, and Rudisch.

A vote of thanks was tendered to the chairman, Dr. Thomas S. Southworth for the success of the meeting.

SECTION ON DERMATOLOGY

Tuesday, June 8—Afternoon

The Section was called to order at 2 *p. m.*, in Olivet Church, by the chairman, Dr. William Allen Pusey, Chicago.

The Chairman said he understood there was a formal motion before the House of Delegates to form a Section on Urology and Syphilis. It seemed to him that a Section on Urology and Syphilis was not a proper subdivision, and he was willing to entertain a motion that would express the sense of the members of this Section on that subject. Dr. J. A. Fordyce, New York, offered the following motion, which was carried and referred to the House of Delegates:

> *Resolved*, That it is the sense of the Section on Cutaneous Medicine and Surgery that in the event a Section on Urology is established, it should not specifically include syphilis. That, while syphilis more nearly belongs to dermatology than to any other specialty, it is a constitutional disease which is an important part of many specialties, and certainly does not belong particularly to urology.

Dr. William Allen Pusey, chairman, delivered an address on "The Teaching of Dermatology; Dermatology and the Pharmacopeia." Discussed by Drs. Louis A. Duhring, Philadelphia, M. B. Hartzell, Philadelphia.

Dr. S. Pollitzer, New York City, read a paper on "Acanthosis Nigricans." Discussed by Drs. W. A. Pusey, Chicago; Alexander S. Wolf, St. Louis; O. H. Foerster, Milwaukee, and Pollitzer.

Dr. M. B. Hartzell, Philadelphia, read a paper on "Morphea-like Epithelioma." Discussed by Drs. J. A. Fordyce, New York City; J. F. Schamberg, Philadelphia; George Pernet, London, England; Louis A. Duhring, Philadelphia; Hazen, Washington; W. A. Pusey, Chicago, and Hartzell.

Dr. O. H. Foerster, Milwaukee, read a paper on "Pemphigus Neonatorum." Discussed by Drs. J. A. Fordyce, New York City; D. W. Montgomery, San Francisco; M. B. Hartzell, Philadelphia; F. C. Knowles, Philadelphia; William A. Pusey, Chicago; George Pernet, London, England, and Foerster.

Dr. W. B. Trimble, New York City, read a paper on "The Chronic Scaly Erythrodermias." Discussed by Dr. W. S. Gottheil, New York City.

Dr. J. A. Fordyce, New York, read a paper on "Report of Some Unusual Forms of Sarcoma of the Skin," with lantern slide illustrations. Discussed by Drs. D. W. Montgomery, San Francisco; J. F. Schamberg, Philadelphia; M. B. Hartzell, Philadelphia; W. S. Gottheil, New York City, and Fordyce.

Dr. M. L. Heidingsfeld, Cincinnati, read a paper on "Keloid: A Comparative Histologic Study," with lantern slide illustrations. Discussed by Drs. William A. Pusey, Chicago, and Maximilian Herzog, Chicago.

The chairman, Dr. Pusey, showed some lantern slide pictures of colored photographs of skin lesions.

Drs. J. F. Schamberg and R. Hirschler, Philadelphia, presented a paper on "Lichen Sclerosus seu Atrophicus." Discussed by Drs. M. B. Hartzell, Philadelphia, and Schamberg.

Drs. Grover W. Wende and Frederick C. Busch, Buffalo, presented a paper on "An Unusual Case of Hyperidrosis."

The following members were appointed to serve as a Nominating Committe: Drs. M. B. Hartzell, Philadelphia; R. R. Campbell, Chicago, and D. W. Montgomery, San Francisco.

WEDNESDAY, JUNE 9—AFTERNOON

The chairman, Dr. Pusey, announced that this meeting would be devoted to a "Symposium on Syphilis."

Dr. F. G. Harris, Chicago, read a paper on "Parasitology." Discussed by Drs. G. de Santos Saxe, New York City; Howard Fox, New York City; Maximilian Herzog, Chicago; W. S. Gottheil, New York City; D. W. Montgomery, San Francisco; M. L. Heidingsfeld, Cincinnati, and Harris.

Dr. W. J. Butler, Chicago, read a paper on "Complement Deviation and Precipitate Reactions for the Diagnosis of Syphilis and Their Clinical Value." Discussed by Drs. Howard Fox, New York City; Maximilian Herzog, Chicago; H. R. Varney, Detroit; F. G. Harris, Chicago; Alexander S. Wolf, St. Louis; Noguchi, New York City, and Butler.

Dr. George Pernet of London, England, read a paper on "The Intramuscular Treatment of Syphilis with Special Reference to the Insoluble Preparations of Mercury; a Critical Review."

Dr. E. C. Hay, Hot Springs, read a paper on "The Comparative Value of the Internal, Inunction and Injection Method of Administering Mercury in the Treatment of Syphilis." These two papers were discussed by Drs. W. S. Gottheil, New York City; W. B. Trimble, New York City; Alexander S. Wolf, St. Louis; Louis Ernst Schmidt, Chicago; William A. Pusey, Chicago; Pernet and Hay.

Dr. R. R. Campbell, Chicago, the representative of the Section to the House of Delegates, announced that the resolution of the Section respecting the proposed change of name had been acted on favorably by the House of Delegates, and that the future name of the Section would be the Section on Dermatology. Dr. Campbell also announced that the formation of a new section to be known as the Section on Urology and Venereal Diseases had been declined by the House of Delegates, but that the request would be granted on the signed petition of 100 members of the American Medical Association.

THURSDAY, JUNE 10—AFTERNOON

The following officers were elected for the ensuing year: Chairman, Grover W. Wende, Buffalo; vice-chairman, M. L. Heidingsfeld, Cincinnati; secretary, H. R. Varney, Detroit; delegate, William Allen Pusey, Chicago; alternate, D. W. Montgomery, San Francisco.

Dr. Grover W. Wende, Buffalo, said that in accordance with the suggestion contained in the Chairman's address, he moved that a committee of three be appointed by the Chairman, the members of which were to work in cooperation with the Council on Pharmacy and Chemistry of the American Medical Association with the object in view of considering drugs and mixtures in the Pharmacopeia and in the National Formulary that were now official, with the view of eliminating those that were useless and suggesting others that were useful in dermatologic practice. This motion was seconded and carried, and the Chairman said he would announce the names of the committee later.

Dr. A. Ravogli, Cincinnati, read a paper on "The Proliferating Forms of the Cutaneous Syphilides." Discussed by Drs. George Pernet, London, England, and Ravogli.

Drs. D. W. Montgomery and H. Alderson, San Francisco, presented a paper on "A Consideration of the Etiology of Lichen Planus as Illustrated by an Acute Case." Discussed by Drs. D. W. Montgomery, San Francisco; J. A. Fordyce, New York City; Louis A. Duhring, Philadelphia; Ernest Dwight Chipman, San Francisco; George Pernet, London; Philip Kilroy, Springfield, Mass., and Alderson.

Dr. H. R. Varney, Detroit, read a paper on "Furunculosis or Staphylococcus Aureus Infection of the Skin, Treated with Polyvalent Stock Vaccine." Discussed by Drs. M. L. Heidingsfeld, Cincinnati; J. A. Fordyce, New York City; A. Ravogli, Cincinnati; Alfred B. Grosse, San Francisco; Alfred Potter, Brooklyn; Henry H. Hazen, Washington, and Varney.

Dr. L. E. Schmidt, Chicago, read a paper on a Series of Tongue Cases." Discussed by Drs. J. B. Kessler, Iowa City; William A. Pusey, Chicago, and Schmidt.

Dr. W. S. Gottheil, New York City, read a paper on "Iododerma Bullosum [illegible]." Discussed by Drs. F. C. Knowles, Philadel [illegible] London; William A. Pusey, Chicago, and Gottheil.

Dr. Alfred Potter, Brooklyn, read a paper on "Brown-Tail Moth Dermatitis; Report of a Case." Discussed by Drs. Clarence M. Casselberry, Boston; William A. Pusey, Chicago, and Potter.

Dr. F. C. Knowles, Philadelphia, read a paper on "Molluscum Contagiosum; Report of an Institutional Epidemic of Fifty-nine Cases." Discussed by Drs. George Pernet, London; Louis A. Duhring, Philadelphia; Marcus Haase, Memphis; W. A. Pusey, Chicago, and Knowles.

The Chairman, in behalf of the officers, expressed his appreciation of the work done at this meeting of the Section. He viewed with pride and gratitude the program that had just been completed. It had contained no "foolish" papers; on the contrary, all had been useful and instructive, and a good discussion had been elicited. With but a single exception, the authors of every one of the papers announced on the program had been present to respond to their names, and for this the officers felt greatly obliged.

The Chairman announced that Dr. Grover W. Wende, the Chairman-elect, had been called home on account of illness in his family.

On motion of Dr. J. A. Fordyce, New York, a unanimous vote of thanks was tendered to the retiring officers for the work they had done in connection with this meeting of the Section.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

TUESDAY, JUNE 8—AFTERNOON

The chairman, Dr. Reid Hunt, of Washington, D. C., called the meeting to order at 2:30 p. m.

Dr. Hunt delivered his address entitled, "Some Problems of Pharmacopeial Revision."

The secretary, Dr. C. S. N. Hallberg, Chicago, presented the credentials of the delegates of the American Pharmaceutical Association.

Mr. George M. Beringer, of Camden, N. J., chairman of the delegates of the American Pharmaceutical Association, presented an address.

Mr. M. I. Wilbert, Washington, D. C., presented a resolution condemning habit drugs, as follows:

> WHEREAS, Opium and its derivatives, cocain and other potent drugs are essentially necessary in the treatment of disease and,
>
> WHEREAS, The abuse of many of these potent drugs and the consequent formation of drug habits is an evil so serious as to demand that means should be adopted to check and prevent them, now; therefore, be it.
>
> *Resolved*, That the Section on Pharmacology and Therapeutics of the American Medical Association recommend that the House of Delegates urge Congress to enact measures which will restrict the use of potent habit-forming drugs to legitimate medicinal purposes by controlling the same through the tariff of supply.

Secretary Hallberg made a motion that the Chairman appoint a committee of three to consider the resolutions and report on them at the succeeding session. Carried.

Drs. George B. Wallace and A. I. Ringer, New York City, presented a paper on "The Lowering of Blood Pressure by Nitrites." Discussed by Drs. Oliver T. Osborne, New Haven, Conn.; Reid Hunt, Washington, D. C., and Ringer.

Dr. Alexander G. Brown, Jr., Richmond, Va., read a paper on "The Therapeutic Management of Arteriosclerosis Based on the Present View of its Pathology." Discussed by Drs. George F. Butler, Chicago; Upshur, Richmond, Va., and Brown, Jr.

Dr. H. C. Wood, Jr., Philadelphia, read a paper on "The Determination of the Quality of Ergot." Discussed by Mr. Charles E. Vanderkleed, Philadelphia, and Drs. C. S. N. Hallberg, Chicago, and Wood, Jr.

Dr. Thomas F. Reilly, New York City, read a paper entitled "Clinical Results with *Cratægus oxycanthus*." Discussed by Drs. Reid Hunt, Washington, D. C., and Reilly.

The Chairman, Dr. Hunt, appointed the following on the committee to consider resolutions: Dr. H. C. Wood, Jr., Mr. M. I. Wilbert, Washington, D. C.; Prof. W. A. Puckner, Chicago.

WEDNESDAY, JUNE 9—MORNING

Symposium on Dietetics

Dr. Charles G. Stockton, Buffalo, read a paper entitled, "The Use of Ferments in Medicine." Discussed by Drs. George Dock, New Orleans; Abraham Jacobi, New York City; C. S.

N. Hallberg, Chicago; Reid Hunt, Washington, D. C., and Stockton.

Dr. David L. Edsall, Philadelphia, read a paper on "General Principles of Dietetics with Special Reference to the Use of Proprietary Foods."

Dr. John Howland, New York City, read a paper on "Proprietary and Predigested Foods from the Standpoint of the Pediatrist."

These two papers were discussed by Drs. A. Jacobi, New York City; G. C. Smith, Boston; F. E. Stewart, Philadelphia; C. S. N. Hallberg, Chicago; W. H. Park, New York City; George Dock, New Orleans; B. Fantus, Chicago; S. S. Cohen, Philadelphia; William H. Mercur, Pittsburg, and Edsall.

Dr. George Dock, New Orleans, read a paper on "The Advantages of Adhering to the Use of Potassium Iodid." Discussed by Dr. S. Solis Cohen, Philadelphia.

Dr. John J. Gilbride, Philadelphia, read a paper on "Clinical Use of Phenolphthalein."

Dr. L. G. Rowntree, Baltimore, read a paper on "A Pharmacologic and Clinical Study of Some Phthaleins."

These two papers were discussed by Drs. H. C. Wood, Jr., Philadelphia; Reid Hunt, Washington, D. C.; Rowntree and Gilbride.

Dr. S. Solis Cohen, Philadelphia, read a paper on "The Analgesic Effect of Local Applications of Solutions of Magnesium Sulphate and of Other Salts." Discussed by Drs. Reid Hunt, Washington, D. C.; C. S. N. Hallberg, Chicago; Theodore Potter, Indianapolis, and Cohen.

Dr. S. Solis Cohen, Philadelphia, made the following motion, which was carried:

> Whenever an application is received by the officers of the Association for pharmaceutical membership the applicant and proposers shall be notified that no such proposition will be considered by the Section unless the application be endorsed officially by the local county medical society.

A resolution signed by the officers of several sections was read in which the House of Delegates was petitioned to organize a separate section devoted to the special field of physical therapeutics. [The action taken on this is noted in the minutes of Thursday morning.]

WEDNESDAY, JUNE 9—AFTERNOON

The afternoon session was attended by the Section on Pathology and Physiology.

Symposium on the Present Status of Serum and Vaccine Therapy With Special Reference to the Products on the American Market

Dr. W. H. Park, New York City, read a paper on "Diphtheria Antitoxin."

Dr. J. F. Anderson, Washington, D. C., read a paper on "Tetanus Antitoxin."

These two papers were discussed by Drs. W. H. Hutchings, Detroit; D. E. R. Larned, Detroit; Joseph McFarland, Philadelphia; Park and Anderson.

Dr. M. G. Motter, Washington, D. C., read the paper of Dr. Mark W. Richardson, Boston, on "General Principles of Bacterial Vaccine Therapy." This paper was not discussed.

Dr. G. H. Weaver, Chicago, read a paper prepared by Dr. L. Hektoen and Dr. R. Tunnicliff, Chicago, on "Investigations of Sera and Vaccines for Streptococcus, Staphylococcus and Pneumococcus Infections." Discussed by Drs. D. H. Bergey, W. H. Park, New York City, and Weaver.

Dr. B. A. Thomas, Philadelphia, Pa., read a paper on "(a) Antigonococcus Serum and Gonococcus Vaccine (Bacterin). (b) Uselessness of Therapy by Pyocyaneus Vaccine." Discussed by Drs. S. S. Cohen, Philadelphia; Francis M. Pottenger, Los Angeles; B. Fantus, Chicago; Oscar Birghausen, Cincinnati, and W. H. Hutchings, Detroit.

Dr. Leo Loeb, Philadelphia, read a paper on "The Treatment of Inoperable Sarcoma by Erysipelas and Prodigiosus Toxins." Discussed by Drs. B. A. Thomas, Philadelphia; W. Duffield Robinson, Philadelphia, and O. P. Johnstone, Pittsburg.

Dr. B. A. Thomas, Philadelphia, read a paper on "Results of Three Years' Experience in Bacterial Immunization." Discussed by Dr. S. Solis Cohen, Philadelphia.

Dr. H. Noguchi, New York City, read a paper on "Antivenins." Discussed by Drs. Joseph McFarland, Philadelphia; John A. Van Valzah, Daytona Beach, Fla., and Noguchi.

Dr. E. R. Baldwin, Saranac Lake, N. Y., presented a paper that was read by Dr. Joseph McFarland, Philadelphia, on "General Principles of Tuberculin Diagnosis and Treatment." Discussed by Drs. F. M. Pottenger, Los Angeles; Joseph McFarland, Philadelphia, and Theodore Potter, Indianapolis.

THURSDAY, JUNE 10—MORNING

The following officers were elected: Chairman, David L. Edsall, Philadelphia; vice-chairman, Mr. M. I. Wilbert, Washington; secretary, Dr. Murray Galt Motter, Washington; executive committee, H. C. Wood, Jr., Philadelphia; M. H. Fussell, Philadelphia; Reid Hunt, Washington; delegate, Dr. C. S. N. Hallberg, Chicago; alternate, Prof. W. A. Puckner, Chicago.

In behalf of the Committee on Resolutions, Dr. H. C. Wood, Jr., reported that the committee felt that the subject-matter contained in the resolution in favor of taxing certain habit-forming drugs, was too big a one to be considered at such a short notice, and that the members of the government service and others who are peculiarly interested in this subject should be consulted before the Section on Pharmacology and Therapeutics took action on it, and that therefore the Committee recommended that no action be taken on the matter at the present time, but that the matter be referred to the executive committee to be reported on next year for action.

In regard to the petition for the formation of a new section to cover Physical Therapeutics, the committee does not feel that this calls for actions as a section; it therefore recommends that no formal action be taken as a section.

Dr. Wood said that a peculiar state of affairs obtains in the District of Columbia in that the District of Columbia Medical Society refuses to admit to membership those physicians who are associated with the United States Government Service. Were it not for the fact that the American Medical Association exempts officers from the Army, Navy and the Public Health and Marine-Hospital Service, these would be also debarred. He presented a resolution requesting the House of Delegates to admit all medical employés of the government not engaged in private practice, but in scientific research, on the same terms as are now extended to the Army, Navy and Marine Corps. The report was adopted and was submitted to the House of Delegates, but too late for definite action at this session.

The chairman, Dr. Reid Hunt, Washington, D. C., read the report of the Committee on the United States Pharmacopeia.

The Secretary read a communication from the Medico-Chirurgical Faculty of Maryland, recommending Dr. Charles Caspari, Jr., and several other pharmacists, to membership in the section. On vote, all members of the American Pharmaceutical Association were given the privilege of the floor.

Dr. M. G. Motter, Washington, called the attention of the Section to the fact that the report of the Committee on Pharmacopeia embodied certain resolutions that involved a possible expenditure of funds of the American Medical Association. He therefore moved that these recommendations be forwarded in due course to the Board of Trustees. Carried.

Dr. M. H. Fussell, Philadelphia, read a paper on "Some of the Preparations of the United States Pharmacopeia from the Practitioner's Standpoint."

Dr. C. S. N. Hallberg, Chicago, read a paper on "Additions to and Eliminations from the United States Pharmacopeia from the Viewpoint of Statistics."

Dr. M. Clayton Thrush, Philadelphia, read a paper on "Do We Possess, in the Drugs and Preparations That are Recognized in the United States Pharmacopeia and the National Formulary, a Sufficient Armamentarium for the Medicinal Treatment of Disease?"

These three papers were discussed by Dr. J. P. Remington, Philadelphia; Dr. H. C. Wood, Jr., Philadelphia; Prof. J. W. England, Philadelphia; Mr. W. Boulton Conyngham, Manchester, England; Dr. Henry Beates, Philadelphia; Prof. Charles Caspari, Jr., Baltimore; Dr. John J. Taylor, Philadelphia; Dr. L. F. Kebler, Washington; Mr. M. I. Wilbert, Washington; Prof. H. P. Hynson, Baltimore; Mr. F. M. Apple, Philadelphia; and Drs. C. S. N. [illegible] M. Clayton Thrush, Philadelphia; Reid [illegible] Bernard Fantus, Chicago, and Charles S[illegible]

THURSDAY, JUNE 10—AFTERNOON

Dr. L. F. Kebler, Washington, read a paper on "Nature of Preparations Used in the Treatment of Drug Addictions;" also a paper on "Nomenclature of the U. S. P. and N. F. Mixtures."

Prof. H. P. Hynson, Baltimore, read a paper on "The National Formulary: What It Is and the Purpose It Serves."

These two papers were discussed by Dr. F. E. Stewart, Philadelphia; Dr. A. Jacobi, New York City; Dr. C. S. N. Hallberg, Chicago; Prof. J. P. Remington, Philadelphia; Dr. Henry Beates, Philadelphia; Dr. C. Caspari, Jr., Baltimore; Dr. M. G. Motter, Washington; Dr. Kebler and Professor Hynson.

Prof. H. P. Hynson, Baltimore, Md., made a motion that a committee of five be appointed by the new chairman, members of the Section on Pharmacology and Therapeutics, especially physicians, to cooperate with the Committee on National Formulary of the American Pharmaceutical Association. This motion was discussed by Dr. A. B. Hirsh, Philadelphia, Prof. J. P. Remington, Philadelphia; Prof. H. P. Hynson, Baltimore. No action was taken on the motion.

Dr. Henry Leffmann, Philadelphia, presented a paper on "What Can Physicians Do to Improve the Pharmacopeia?" which was read by Dr. A. B. Hirsh, Philadelphia. Discussed by Prof. J. P. Remington, Philadelphia; Drs. Henry Beates, Philadelphia; M. G. Motter, Washington; Reid Hunt, Washington; L. F. Kebler, Washington, and Charles Caspari, Jr., Baltimore.

Dr. Henry Beates, Philadelphia, made a motion that an expression of thanks be tenderd by the Section for the admirable and useful program that the Chairman had provided. Carried.

Prof. Joseph Remington, Philadelphia, made a motion that the thanks of the Section be tendered the Chairman for the able and efficient manner in which he performed his duty. Carried.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Tuesday, June 8—Afternoon

Dr. Joseph McFarland and Dr. Paul G. Weston, Philadelphia, presented a paper on "The Hemolytic Action of Crotalus Venom on Human Erythrocytes." Discussed by Drs. D. H. Bergey, Philadelphia; E. C. L. Miller, Detroit, and McFarland.

Dr. Evarts A. Graham, Chicago, read a paper on "The Relation of Ether to Immunity." Discussed by Drs. H. Gideon Wells, Chicago; G. W. Drake, Hollins Institute; Frank Smithies, Ann Arbor, Mich., and Graham.

Dr. Alwin M. Pappenheimer, New York City, read a paper on "The Diagnosis of Thymus Cells, and the Normal and Pathologic Histology of the Thymus." No discussion.

Dr. Frank Smithies, Ann Arbor, Mich., read a paper on "Cardiac Thrombosis; The Clinical and Pathologic Findings in Four Cases." No discussion.

Wednesday, June 9—Morning

Dr. Yandell Henderson, New Haven, Conn., read a paper on "The Relation of Venous Pressure to the Efficiency of the Heart." Discussed by Drs. A. W. Hewlett, Ann Arbor, Mich.; G. B. Wood, *Philadelphia; H. F. Wolf, New York City, and* Henderson.

Dr. A. W. Hewlett and Dr. J. G. Van Zwaluwenburg, Ann Arbor, Mich., presented a paper on "The Rate of Blood Flow in the Arm." Discussed by Drs. Yandell Henderson, New Haven; H. F. Wolf, New York City; S. J. Meltzer, New York City, and Hewlett.

Dr. C. C. Fowler and Dr. P. B. Hawk, Urbana, Ill., presented a paper on "The Metabolic Influence of Copious Water Drinking with Meals." Discussed by Drs. G. W. Drake, Hollins Institute; Henry S. Wieder, Philadelphia; Andrew McFarland, Albany; S. J. Meltzer, New York City; M. J. Rosenau, Washington, and Hawk.

Dr. Harlan Shoemaker, Philadelphia, read a paper on "Experimental Analysis of the Altered Function of the Kidney in Diabetes Mellitus." No discussion.

Dr. Walter B. Cannon, Boston, read a paper on "The Relation of Tonus to Peristalsis." Discussed by Drs. Henry S. Wieder, Philadelphia; S. J. Meltzer, New York City; Hugo Freund, Detroit, and Cannon.

Wednesday, June 9—Afternoon

The Section attended the session of the Section on Pharmacology and Therapeutics.

Thursday, June 10—Morning

The following officers were elected: President, Dr. H. Gideon Wells, Chicago; secretary, Dr. Yandell Henderson, New Haven; delegate, Dr. W. B. Cannon, Boston.

The Section then adjourned until the afternoon.

Thursday, June 10—Afternoon

Dr. Leo Loeb, Philadelphia, read a paper on "The Experimental Production of Maternal Placenta." Discussed by Drs. Maximilian Herzog, Chicago; H. G. Wells, Chicago; M. J. Rosenau, Washington, and Loeb.

Dr. Joseph C. Bloodgood, Baltimore, read a paper on "Cysts of the Female Breast, and Their Relation to Carcinoma." Discussed by Drs. William C. MacCarty, Rochester, Minn., and H. S. Wieder, Philadelphia, and Bloodgood.

Dr. William Carpenter MacCarty, Rochester, Minn., read a paper on "Pathology of Gastric Ulcer." Discussed by Drs. J. C. Bloodgood, Baltimore; C. Graham, Rochester, Minn.; Leo Loeb, Philadelphia, and MacCarty.

Dr. Oscar Berghausen, Cincinnati, read a paper on "The Significance of Ehrlich's Aldehyd Reaction in the Urine." No discussion.

Dr. O. P. Johnstone and Dr. C. H. Canning, Pittsburg, presented a paper on "Hemolysis in the Diagnosis of Malignant Neoplasms." Discussed by Drs. W. J. Butler, Chicago; Frank Smithies, Ann Arbor, Mich.; H. Noguchi, New York City, and Johnstone.

Dr. Hideyo Noguchi, New York City, read a paper on "A Rational and Practical Complement Fixation Test and Butyric Acid Test for Syphilis Diagnosis."

Dr. Henry S. Wieder and Dr. Edward M. L'Engle, Philadelphia, presented a paper on "Some Studies of the Precipitin Tests for Syphilis."

Dr. William Litterer, Nashville, Tenn., read a paper on "Serodiagnosis of Syphilis."

These three papers were discussed by Drs. Maximilian Herzog, Chicago; Frank Smithies, Ann Arbor, Mich.; W. J. Butler, Chicago; J. J. Kinyoun, Washington, Noguchi, Wieder and Literer.

THE ATLANTIC CITY REGISTRATION

List of Members Who Registered at the Atlantic City Session, June, 1909

The total registration at the Atlantic City session was over 3,200. At Chicago, in 1908, the registration was over 6,400, the largest in the history of the Association. In 1907, over 3,700 registered at Atlantic City, and in 1906 there were over 4,700 registrations at Boston.

In addition to the names below, of members and guests, a number registered whose names are not given. Some of these have not forwarded credentials for membership and some failed to sign the application blank.

Below are given two summaries, *one by sections and one* by states.

REGISTRATION BY SECTIONS

Practice of Medicine	850
Obstetrics and Diseases of Women	265
Surgery and Anatomy	859
Hygiene and Sanitary Science	88
Diseases of Children	161
Ophthalmology	317
Stomatology	51
Nervous and Mental Diseases	133
Cutaneous Medicine and Surgery	88
Laryngology and Otology	197
Pharmacology and Therapeutics	63
Pathology and Physiology	57
Registered without specifying any one section	87

REGISTRATION BY STATES

Alabama	17	Nebraska	14
Arizona	2	New Hampshire	13
Arkansas	13	New Jersey	243
California	56	New Mexico	2
Colorado	35	New York	475
Connecticut	68	*North Carolina*	25
Delaware	19	North Dakota	7
Dist. of Columbia	66	Ohio	175
Florida	6	Oklahoma	4
Georgia	11	Oregon	7
Idaho	1	Pennsylvania	893
Illinois	164	Rhode *Island*	30
Indiana	68	South Carolina	14
Iowa	36	South Dakota	5
Kansas	13	Tennessee	32
Kentucky	29	Texas	12
Louisiana	22	Utah	5
Maine	11	Vermont	16
Maryland	128	Virginia	52
Massachusetts	141	Washington	5
Michigan	87	West *Virginia*	29
Minnesota	40	Wisconsin	44
Mississippi	4	Wyoming	2
Missouri	66	Foreign	5
Montana	8		

Practice of Medicine

Abrahams. Robert, *New York City.*
Abbott, Walter H., Hillsboro, New Hampshire.
Adler, Harry, Baltimore, Md.
Alexander, Jas. F., Blocton, Ala.
Alkier, S. J., Brooklyn, N. Y.
Alleman, Frank, Lancaster, Pa.
Allen, L. M., Philadelphia, Pa.
Allyn, Herman B., Philadelphia.
Amerland, J. H., St. Louis, Mo.
Ames, R. P. M., Springfield, Mass.
Anders, J. M., Philadelphia.
Anders, J. Wesley, Philadelphia, Pa.
Anderson, Guy R., Barnesboro, Pa.
Anderson, Wm. E., Farmville, Va.
Andreas, George R., Wilkes-Barre. Pa.
Arbuthnot, Thomas S., Pittsburg, Pa.
Arneill, James R., Denver, Colo.
Arnold, Horace D., Boston, Mass.
Ashcraft, Samuel F., Mullica Hill, N. J.
Atkins, Joseph C., Red Lion, Pa.
Atkinson, A. D., *Baltimore,* Md.

Babcock, Myron L., Julesburg, Colo.
Bachman, Charles W., Reading, Pa.
Backenstoe, M. J., Emaus, Pa.
Bacon, John, Philadelphia, Pa.
Bahn, G. W., Spring Forge, Pa.
Baker, F. Kline, Philadelphia.
Baldwin, S. O., So. Framingham, Mass.
Baner, William L., New York City.
Banes, S. Thompson, Philadelphia.
Banker, D. F., Canton, Ohio.
Banks, Wm. H., San Francisco, Cal.
Barbash, Samuel, Atlantic City, N. J.
Barker, E. O., Guthrie, Okla.
Barker, James F., Albany, N. Y.
Barker, Lewellys F., Baltimore, Md.
Barney, Delbert, Wilkes-Barre, Pa.
Barnum, Merritt Wright, Ossining, N. Y.
Bartlett, Clara K., Atlantic City, N. J.
Baruch, Emanuel, New York City.
Basch, Seymour, New York City.
Bassett, Henry L., Yardley, Pa.
Bassett, M. Imogene, Cooperstown, N. Y.
Bassler, Anthony, New York City.
Bastedo, W. A., New York City.
Bates, John F., Setauket, N. Y.
Bauer, L. Demme, Philadelphia, Pa.
Bear, Lowney H., Vevay, Ind.
Beatty, H. M., Trenton, N. J.
Beck, Harvey G., Baltimore, Md.
Beck, J. S., Dayton, Ohio.
Beebe, W. L., St. Cloud, Minn.
Beecher, C. H., Burlington, Vt.
Bell, John M., St. Joseph, Mo.
Bellow, George A., Waterloo, N. Y.
Bennett, John K., Gloucester, N. J.
Bennett, L. F., Beloit, Wis.
Benson, Gideon, Richland Center, Wis.
Berghausen, Oscar, Cincinnati, Ohio.
Berry, R. D., Springfield. Ill.
Bessey, J. M., Toledo, Ohio.
Bettmann, H. W., Cincinnati, Ohio.
Berkler, W. B., Auburn, Maine.
Bierring, Walter L., Iowa City. Iowa.
Bierwirth, J. C., Brooklyn, N. Y.
Billings, Frank, Chicago, Ill.
Bishop, Aaron L., Philadelphia.
Black, John J., New Castle, Del.
Black, Stanley P., Pasadena, Cal.
Blackburn, Albert E., Philadelphia.
Blake, Gerald, Boston.
Blankenhorn, H., Orrville, Ohio.
Boardman, Albertus K., New Haven, Conn.
Bode, Mildred J., Cincinnati, Ohio.
Bold, Valentine J , Philadelphia.
Bolin, Jesse A., Philadelphia.
Bolling, Louis A., Attica, Ind.
Bolton, L. C., Cedaredge, Colo.
Boon, William Thomas, Manayunk, Pa.
Borzell, F. F., Cressman, Pa.
Bosher, Robert S., Jr., Richmond, Va.
Bosworth, B. D. Knoxville, Tenn.
Bowen, C. R., Almond, N. Y.
Bower, George B. M., Ft. Wayne, Ind.
Bowman, Henry C., Mahanoy City, Pa.
Boyer, J. S , Decatur, Ind.
Boysen, Theodore H., Egg Harbor, City, N. J.
Bradeen, Fred B., Essex, Conn.
Bradford, Stella S., Montclair, N. J.
Bradshaw, L. L., New York City.
Brallin, S. A. E., Conemaugh, Pa.
Branson, Thomas F., Rosemont, Pa.
Brockway, F., Oshkosh, Wis.
Brody, Myer, Cleveland, Ohio.
Brookshire, H. G., Asheville, N. C.
Brooks, Nelson O., Oneida, N. Y.
Broome, Joseph R., New York City.
Brown, C. H., Waterbury, Conn.
Brown, Frank E., Baltimore, Md.
Brown, Frederick W., Franklin, Pa.
Brown, H. MacVeagh, Philadelphia.
Brown, Louis Emmitt, Frederick, Md.
Brown, Philip King, San Francisco.
Brunner, H. Philemon, Reading, Pa.
Brush, Frederic, New York City.
Bryant, H. A., Schenectady, N. Y.
Buck, E. M., Montrose, Iowa.
Buck, Jefferies, Baltimore, Md.
Burdick, Frank E., Providence, R. I.
Burnett, Hayes J., Montclair, N. J.
Burroughs, H. S., Pittsburg, Pa.
Burtt, A. S. Momence, Ill.
Buswell, C. A., Chicago.
Cabot, Richard C., Boston.
Cadwallader, J. C., Norwood, Ohio.
Cairnes, George H., Baltimore, Md.
Caldwell, Charles P., Chicago.
Cameron, George A., Philadelphia.
Campbell, Elizabeth, Cincinnati, Ohio.
Campbell, O. Clayman, Philadelphia.
Campbell, W. L., New Castle, Pa.
Capps, Joseph A., Chicago.
Carpenter, G. S., Waverly, N. Y.
Carpenter, William H., Salem, N. J.
Carrell, John B., Hatboro, Pa.
Carrigan, E. S., Point Pleasant, N. J.
Carter, Joseph J., Weston, Mo.
Caspari, William, Baltimore, Md.
Castleman, Howell L., Sylacauga, Ala.
Cathell, D. W., Baltimore, Md.
Cawley, James I., Springtown, Pa.
Chamberlin, Edwin C., New York City.
Champlin, John, Westerly, R. I.
Chatard, J. A., Baltimore, Md.
Chew, E. C., Atlantic City, N. J.
Chittick, W. R., Detroit, Mich.
Clapp, George H. Philadelphia.
Clark, C. R., Youngstown, Ohio.
Clark, William A., Trenton, N. J.
Clarke, Ida, Youngstown, Ohio.
Clarke, J. Fred, Fairfield, Iowa.
Claytor, Thomas A., Washington, D. C.
Cleaver, Israel, Reading, Pa.
Cleland, James, Jr., Detroit, Mich.
Clemensen, Peter C., Chicago.
Clour, Charles F., Schenectady, N. J.
Cobey, James C., Frostburg, Md.
Codman, Charles A. E., Philadelphia.
Cohen, Myer Solis-, Philadelphia.
Cole, Lewis Gregory, New York City.
Coleman, Nathaniel R., Columbus, O.
Coleman, Thomas D., Augusta, Ga.
Coleman, Warren, New York City.
Comstock, Ira M., New York Mills, N. Y.
Conklin, Gustavus, Orwell, Pa.
Connell, A. J., Scranton, Pa.
Conner, Lewis A., New York City.
Cook, G Wythe, Washington, D. C.
Cook, Henry Wireman, Minneapolis, Minn.
Cooley, Abbott L., Chicopee, Mass.
Coons, J. J., Columbus, Ohio.
Copeland, E. V., Round Hill, Va.
Cordell, Eugene F., Baltimore, Md.
Cornick, Boyd, San Angelo, Texas.
Cotham, E. R., Monticello, Ark.
Coumbe, A. G., Vienna, Va.
Craighill, James M., Baltimore, Md.
Crane, A. W , Kalamazoo, Mich.
Crane, S. Ellis, Syracuse, N. Y.
Crawford, James Rea, Philadelphia.
Croft, J. W., Waynesboro, Pa.
Cronin, Michael J., Boston, Mass.
Crump, G. A., New York City.
Culloway, A. W., Asheville, N. C.
Cunningham, J. N., Stanley, Wis.
Cunningham, Thomas E., Cambridge, Mass.
Currie, Thomas R., Philadelphia, Pa.
Curtin, Roland G., Philadelphia.
Cuskaden, A. D., Atlantic City, N. J.
Custer, D. D., Philadelphia.
Daland, Judson, Philadelphia.
Daugherty, M. M., Mechanicsburg, Pa.
Davis, Homer W., Alton, Ill.
Davis, James E., Detroit, Mich.
Davis, Thomas D., Pittsburg, Pa.
Day, S. Thomas, Port Norris, N. J.
Da Costa, John C., Jr., Philadelphia.
De Grofft, E. E., Woodstown, N. J.
Delaney, Willaim E., Slate Run, Pa.
Denison, Ellery, New York City.
Devitt, B. F., Philadelphia.
Dickes, John T., Portland, Ind.
Dillard, Henry K., Jr., Philadelphia.
Dock, George, New Orleans, La.
Dockstader, Charles H., New York City.
Dodin, Henry H., New York City.
Dodson, Boyd, Wilkes-Barre, Pa.
Donaldson, John B., Canonsburg, Pa.
Donaldson, John S., Bellevue, Pa.
Doty, E. A., Oxford, Iowa.
Dowden, C. W., West Baden, Ind.
Downey, Charles J., Springfield, Mass.
Driesbach, F. R., Dansville, N. Y.
Dripps, John H., Philadelphia.
Driscoll, Daniel, Portland, Maine.
Drummond, Winslow, Philadelphia.
Dubbs, J. H., Philadelphia.
Dunlap, Thomas G., Atlantic City, N. J.
Dunning, Z. F., Philmont. N. Y.
Durand, Jay I., Atlantic City, N. J.
Dwyer, P. J., Waterbury, Conn.
Dyar, B. A., DeSmet, S. Dak.
Earley, Thomas B., Philadelphia.
Eastman, Theodore J., Boston.
Eastman, W. H., Fredericktown, O.
Eccles, R. M., Blissfield, Mich.
Edgerton, H. K., Lebanon, Tenn.
Egbert, Joseph C., Wayne, Pa.
Egolf, H. M., Liberty, Ind.
Einhorn, Max, New York City.
Eisenhower, C. W., Jacobus, Pa.
Ellenberger, J. Wesley, Harrisburg, Pa.
Ellinger, T. J., Philadelphia.
Ellis, Charles M., Elkton, Md.
Ellis, J. W., Masonville, Ky.
Elsner, Henry L., Syracuse, N. Y.
Elwell, Alfred M., Camden, N. J.
Ely, William L., Rochester, N. Y.
Emerson, Charles P., Clifton Springs, N. Y.
Erdman, William B., Macungie, Pa.
Evans, D. Webster, Scranton, Pa.
Evans, Joseph S., Jr., Philadelphia, Pa.
Ewing, William B., West Grove, Pa.
Fackler, L. H., York, Pa.
Fair, Fred F., Chicago.
Fair, John F., Cambridge, Mass.
Falkowsky, Charles, Jr., Scranton, Pa.
Faries, Clarence T., Narbeth, Pa.
Farr, Clifford, B., Philadelphia, Pa.
Fassett, Charles Wood, St. Joseph, Mo.
Faught, Francis Ashley, Philadelphia.
Felch, Theodore A., Ishpeming, Mich.
Firebaugh, T. C., Harrisonburg, Va.
Fish, Clyde M., Pleasantville, N. J.
Fisher, C. R. P., Bound Brook, N. J.
Fisher, John C., Elmira, N. Y.
Fisler, C. F., Clayton, N. J.
Fithian, G. W., Perth Amboy, N. J.
Fleckenstein, Horace, Newportville, Pa.
Flynn, James H., New Haven, Conn.
Foote, Charles J., New Haven, Conn.
Forchheimer, F., Cincinnati, Ohio.
Foster, William S., Pittsburg, Pa.
Fox, Galen A., Cheyenne, Wyo.
Foxworthy, Frank W., Indianapolis, Ind.
Frank, G. S., Millheim, Pa.
Frankel, J. J., Philadelphia, Pa.
Fraser, Roderick, New York City.
Freeman, E. B., Baltimore, Md.
Freile, William, Jersey City, N. J.
Fretz, Alfred E., Sellersville, Pa.
Freund, Hugo A., Detroit, Mich.
Freund, H. H., Philadelphia.
Frey, Lewis, Scranton, Pa.
Friedenwald, Julius, Baltimore, Md.
Fronfield, T. H., Media, Pa.
Fuller, F. B., Pawtucket, R. I.
Fulton, Dudley, Los Angeles, Cal.
Funke, John, Philadelphia.
Futcher, Thomas B., Baltimore, Md.
Gardner, Edward R., Montrose, Pa.
Gaston, Ida E., Philadelphia, Pa.
Geisler, Howard D., Philadelphia, Pa.
Gerhard, Samuel P., Philadelphia, Pa.
Gichner, Joseph E., Baltimore, Md.
Gifford, John H., Fall River, Mass.
Gildersleeve, George H., Philadelphia.
Gillette, H. F., Cuba, N. Y.
Githens, Thomas S., Philadelphia.
Gleeson, J. K. P., Washington, D. C.
Godfrey, Andrew, Ambler, Pa.
Godfrey, E. L. B., Camden, N. J.
Goepp, R. Max, Philadelphia.
Gompertz, Louis M., New Haven, Conn.
Good, Albert Parke, Philadelphia.
Good, J. F., New Cumberland, Pa.
Goodman, Edward H., Philadelphia.
Goodwin, Ralph S., Thomaston, Conn.
Gordon, A. L., Burlington, N. J.
Gordon, John K., Chambersburg, Pa.
Graham, Christopher, Rochester, Minn.
Granger, William R. R., Newark, N. J.
Graves, Frederick C., Bridgeport, Conn.
Grant, W. Ed, Louisville, Ky.
Green, G. M., Ottsville, Pa.
Greene, Clarke W., Binghamton, N. Y.
Griffin, C. E., Fair Haven, Vt.
Griffith, J. H., Phillipsburg, N. J.
Griggs, John B., Hartford, Conn.
Grover, John B., Peckville, Pa.
Groves, John E., Uhrichsville, Ohio.
Guthrie, D. Clinton, Philadelphia.
Haase, Charles Elmira, N. Y.
Haass, E. W., Detroit, Mich.
Hall, E. N., Bowling Green, Ky.
Hall, J. N., Denver, Colo.
Halsey, B. F., Roper, N. C.
Halsey, Luther M., Williamstown, N. J.
Halton, Joseph, Sarasota, Fla.
Hamilton, J. H., Union, S. C.
Hammon, Glenn M., Chicago.
Hampsey, A. R., Pittsburg, Pa.
Hance, Irwin H., Lakewood, N. J.
Hannum, J. W., Ludlow, Mass.
Hannum, William, Hatboro, Pa.
Hare, H. A., Philadelphia.
Harman, W. J., Trenton, N. J.
Harris, A. E., Little Rock, Ark.
Harris, E. E., New York City.
Harrower, Henry R., Chicago.
Hartman, Irvin H., Reading, Pa.
Hartman, W. F., Swoope, Va.
Hartman, W. L., Pittston, Pa.
Hartzell, W. H., Allentown, Pa.
Harvey, Edwin H., Atlantic City, N. J.
Hasencamp, Oscar, Toledo, Ohio.
Hatchett, John A., El Reno, Okla.
Hauswirth, Louis, New York City.
Heard, James D., Pittsburg, Pa.
Hedrick, J. S., Dunkirk, Ohio.
Heisler, John C., Philadelphia.
Heller, C. E., Williamsport, Pa.
Heller, Frederick S., Oak Harbor, O.
Heller, Joseph M., Washington, D. C.
Henry, Frank C., Perth Amboy, N. J.
Henry, Frederick P., Philadelphia.
Heritage, Charles S., Glassboro, N. J.
Hershey, George Bair, Gap, Pa.
Hertz, J. L., Lititz, Pa.
Hewes, Henry F., Boston.
Hewlett, A. W., Ann Arbor, Mich.
Heydecker, Henry R., New York City.
Heyn, Louis G., Cincinnati, Ohio.
Hickman, Walter Atlee, Atlantic City, N. J.
Hill, Harold P., San Francisco.
Hill, James Charlesworth, Newton, Iowa.
Hirschfelder, J. O., San Francisco.
Hoagland, Henry, W., Colorado Springs, Colo.
Hocker, Elizabeth M., Cincinnati, O.
Hodges, J. W., Washington, D. C.
Hodgson, H. W., Cumberland, Md.
Hoge, William D., Rayland, Ohio.
Holden, T. N., New York City.
Holder, R. E., Columbus, Ind.
Holland, Arthur B., Wellsville, Ohio.
Hollingshead, E., Pemberton, N. J.
Hollingshead, Frances, Cincinnati, O.
Hollingshead, I. W., Philadelphia.
Holtzapple, G. E., York, Pa.
Hood, T. M., Clarksburg, W. Va.
Hoover, Benjamin A., Wrightsville, Pa.
Hoover, C. F., Cleveland, Ohio.
Hoover, P. D., Waynesboro, Pa.
Horn, C. T., Lehighton, Pa.
Hosick, W. R., Newcomerstown, O.
Hostetter, J. E., Gap, Pa.
Hough, Frank P., Binghamton, N. Y.
Huber, G. W., Scranton, Pa.
Hughes, G. W., Armstrong, Ill.
Hughes, W. E., Philadelphia.
Humphrey, G. E., Cambridge Springs, Pa.
Hunter, James W., Jr., Norfolk, Va.
Hunter, John W., Philadelphia.
Hurd, Edward F., New York City.
Huselton, W. S., Pittsburg, Pa.
Hutchinson, Woods, New York City.
Ikemire, J. A., Palestine, Ill.
Illman, G. Morton, Philadelphia.
Jaches, Leopold, New York City.
Jack, William G., Liberty Grove, Md.
James, H. C., Mays Landing, N. J.
James, William H., Pennsville, N. J.
Jarrett, Henry S., Towson, Md.
Jackson, H. P., Charleston, S. C.
Jenkins, J. Clement, Lititz, Pa.
Jennings, W. B., Haddonfield, N. J.
Johnston, James I., Pittsburg, Pa.
Jonah, W. E., Atlantic City, N. J.
Jones, Allen A., Buffalo, N. J.
Jones, Clement R., Pittsburg, Pa.
Jones, J. J., Wilmington, Del.
Jones, Frank A., Memphis, Tenn.
Joslin, E. P., Boston.
Joy, J. Addison, Atlantic City, N. J.
Joy, L. Fowler, Fulton, N. Y.
Jump, Henry D., Philadelphia.
Kahlo, George D., French Lick Springs, Ind.
Kain, William W., Camden, N. J.
Kauffman, John W., Reading, Pa.
Kast, L. W., New York City.
Katzenbach, W. H., New York City.
Keafe, Daniel E., Springfield, Mass.
Keegon, Charles A., Arlington, Mass.
Kegel, Ernest T., Walcott, Iowa.
Keller, David H., Russell, Pa.
Kelly, J. V., Philadelphia.
Kelsey, Ernest W., Philadelphia.
Kennedy, A. B., Bonham, Texas.
Kerns, Samuel P., Philadelphia.
Kerr, William E., Steubenville, Ohio.
Kilburn, Frank, Presque Isle, Maine.
Kimberlin, A. C., Indianapolis, Ind.
Kimbrough, John S., St. Louis, Mo.
King, Charles Lee, Pasadena, Cal.
King, Emil, Fulda, Minn.
King, James W., Stottville, N. Y.
King, John T., Baltimore, Md.
Kinyoun, J. J., Washington, D. C.
Kip, Henry, Paterson, N. J.
Kirk, Grant E., Camden, N. J.
Klentgen, A. C., Chicago.
Klopp Peter P., Philadelphia.
Knight, Arthur L., Cincinnati, Ohio.
Krum, A. G., Erie, Pa.
Kuder, W. S., U. S. Navy, Philadelphia.
Laker, S. B., Eureka, Utah.
Lambert, A., New York City.
Lamley, George H., Blissfield, Mich.
Lamson, William J., Summit, N. J.
Lange, Sidney, Cincinnati, Ohio.
Lantz, Percival, Alaska, W. Va.
Lathrop, M. C., Dover, N. H.
Laughlin, Mary A., Hagerstown, Md.
Laughlin, Rebecca P., Waynesboro, Pa.
Lavenson, R. S., Philadelphia.
Lawrence, R. G., Hammondsport, N. Y.
Laws, George C., Paulsboro, N. J.
Leahy, Maurice, Tiffin, Ohio.
Leaman, Walter J., Leaman Place, Pa.

Le Beuf, Louis G., New Orleans, La.
Le Compte, William C., Bristol, Pa.
Leen, Thomas Francis, Boston.
Leitzell, P. W., Portland Mills, Pa.
Leonard, I. E., Atlantic City, N. J.
Le Roy, Irving D., Pleasant Valley, N. Y.
Levy, I. Harris, Syracuse, N. Y.
Lewis, Charles H., New York City.
Lewis, Dorsey W., Middletown, Del.
Lewis, Thomas Stone, Lexington, Ky.
Libbert, Edward J., Aurora, Ind.
Lichty, John A., Pittsburg, Pa.
Lippincott, Jesse D., Newark, N. J.
Little, F. H., Muscatine, Iowa.
Long, A. A., York, Pa.
Long, Isaac S., Freehold, N. J.
Longcope, Warfield T., Philadelphia.
Loose, D. N., Maquoketa, Iowa.
Love, Frank W., Buffalo, N. Y.
Lowman, J. H., Cleveland, Ohio.
Luce, Charles R., Washington, D. C.
Lund, John L., Perth Amboy, N. J.
Lytle, Frank P., Birdsboro, Pa.
Maben, B. W., Kingston, N. Y.
MacFarland, Andrew, Albany, N. Y.
MacLeod, Norman M., Beverly, Mass.
Macqueen, Donald K., Laurium, Mich.
Mandell, A. H., New Bedford, Mass.
Manning, Thomas, New Rochelle, N. Y.
Marchand, J. F., Canton, Ohio.
Marcy, Alex, Riverton, N. J.
Marcy, Fred W., Camden, N. J.
Martelle, Henry A., Hartford, Conn.
Martin, Harry C., Springfield, Mass.
Martin, William, Bristol, Pa.
Marvel, Philip, Atlantic City, N. J.
Marvin, J. B., Louisville, Ky.
Mason, W. M., Sr., Hazel, Ky.
Mathews, George S., Providence, R. I.
Matthews, H. E., Orange, N. J.
Matthews, M. F., Athens, Ga.
Maxwell, J. R., Parkesbury, Pa.
May, A., Crothersville, Ind.
May, James C., Manchester, Pa.
Mayberry, F. E., Dorchester, Mass.
Maynard, O. T., Elyria, Ohio.
Maynard, S. S., Frederick, Md.
McAlister, John B., Harrisburg, Pa.
McAninch, D. L., Lamartine, Pa.
McCafferty, J. A., New York City.
McClymonds, Julian T., Lexington, Ky.
McCollam, James A., Uhrichsville, O.
McCollin, S. Mason, Philadelphia.
McComb, C. F., Duluth, Minn.
McConnell, H. E., Chester, S. C.
McCormick, Horace G., Williamsport, Pa.
McCrae, Thomas, Baltimore, Md.
McCreight, W. S., Pittsburg, Pa.
McCullough, A. H., Mansfield, Ohio.
McElroy, James B., Memphis, Tenn.
McGavran, Charles N., Columbus, O.
McGavran, S. B., Cadiz, Ohio.
McGowan, H., Harrisburg, Pa.
McGuire, James J., Trenton, N. J.
McIlhaney, William H., Easton, Pa.
McKeage, William, Philadelphia.
McKean, George E., Detroit, Mich.
McKenzie, R. Tait, Philadelphia.
McKilvy, James P., Pittsburg, Pa.
McKinney, J. W., Bluffton, Ind.
McLarney, T. J., Waterbury, Conn.
McLaughlin, J. J., Philadelphia.
McLean, Frank, Chewango Forks, N. Y.
McLean, John D., Philadelphia.
McPharthon, Peter, Schenectady, N.Y.
Meigh, Josiah, Bernardsville, N. J.
Mentzer, S. E., Monroeville, Ind.
Mercur, William H., Pittsburg.
Merrill, B. E., Dent's Run, Pa.
Mervine, Graydon, Bitumin, Pa.
Mervine, R. B., Hillsgrove, Pa.
Merzbach, Joseph, Brooklyn, N. Y.
Michener, Evan W., Philadelphia.
Middleton, William J., Steelton, Pa.
Miller, A. I., Brattleboro, Vt.
Miller, DeWitt Clinton R., Mason & Dixon, Pa.
Miller, John Harvey, Harrisburg, Pa.
Miller, Joseph S., Chicago.
Miller, N. C., Stroudsburg, Pa.
Millikin, T. N., Waynesburg, Pa.
Miner, Charles H., Wilkes-Barre, Pa.
Minish, L. T., Frankfort, Ky.
Minnick, A. G., Lock Springs, Mo.
Moak, Charles H., New York City.
Moomaw, Ben C., Roanoke, Va.
Moore, Edwin W., Franklin, Pa.
Moran, George W., Detroit, Mich.
Morgan, Arthur C., Philadelphia.
Morgan, James Dudley, Washington, D. C.
Morgan, J. Howard, Westerly, R. I.
Morrow, E. O., Canton, Ohio.
Morrow, H. Wilson, Swissvale, Pa.
Morton, Rosalie Slaughter, New York City.
Mosby, C. V., St. Louis, Mo.
Mowery, J. L., Lancaster, Pa.
Mowry, Jesse E., Providence, R. I.
Mudgett, John H., Philadelphia.
Mulligan, Wesley T., Rochester, N.Y.
Munson, S. E., Springfield, Ill.
Murphy, Anna F., Worcester, Mass.
Murphy, Franklin E., Kansas City, Mo.
Murphy, Timothy J., Boston.
Murray, John H., Reynoldsville, Pa.
Murray, Peter, New York City.
Musser, John H., Philadelphia.
Myers, Isaac N., Maples, Ind.
Nagle, Thomas S., Allentown, Pa.
Neary, Philip M., Cortland, N. Y.
Neel, H. A. P., Philadelphia.
Neff, John, Baltimore, Md.
Nettleton, Irving L., Bridgeport, Conn.
Neufeld, Maurice A., Chester, Pa.
Neuman, Leo H., Albany, N. Y.
Newell, H. A., Louisburg, N. C.
Newlin, Le Roy, Robinson, Ill.
Nickerson, L. H. A., Quincy, Ill.
Nisbet, James Douglas, New York City.
Nisbet, Walter O., Charlotte, N. C.
Norris, George W., Philadelphia.
Norris, M. D., Eldersburg, Md.
North, James, Atlantic City, N. J.
North, Lucian G., Tecumseh, Mich.
Northrup, A. H., Markle, Ind.
Noyes, Robert F., Providence, R. I.
O'Brien, D. D., Oswego, N. Y.
O'Connell, John A., Philadelphia.
O'Connor, John H., Hyde Park, Mass.
Oettiker, James, Platteville, Wis.
O'Meara, John G., Providence, R. I.
Oppenheimer, B. S., New York City.
Osborn, Samuel, Lansing, Mich.
Osmond, Anna R., Philadelphia.
Oswald, B. Frank, Cleveland, Ohio.
Otis, Elmer F., Lake George, N. Y.
Ovler, W. H., New York City.
Page, A. C., Des Moines, Iowa.
Page, Henry F., Philadelphia.
Palfrey, Francis W., Boston.
Palmer, Albert H., Marlborough, N. Y.
Park, William E., New Milford, Pa.
Parke, B. R., Wellsville, Ohio.
Parker, Delos L., Detroit, Mich.
Parry, Eleanor, New York City.
Patek, Arthur J., Milwaukee, Wis.
Paul, Thomas M., St. Joseph, Mo.
Pearson, Donnell M., Louisiana, Mo.
Pease, Herbert, Slater, Iowa.
Peck, C. W., Brandon, Vt.
Pepper, Wilbur L., Philadelphia.
Perkins, Jay, Providence, R. I.
Peterman, A. L., Parker, S. D.
Peterman, J. H., Cherry Tree, Pa.
Pettit, J. W., Ottawa, Ill.
Pfaff, Otto, Oneida, N. Y.
Pfahler, G. E., Philadelphia.
Pfaltzgraff, S. K., York, Pa.
Pfromm, George W., Philadelphia.
Phelps, A. W., East Aurora, N. Y.
Phelps, John S., Boston.
Pierce, William R., Amsterdam, N.Y.
Pigman, Samuel C., Concordia, Kan.
Podolski, L. A., Philadelphia.
Pollock, W. F., Pittsburg.
Porath, W. C., Varina, Iowa.
Porch, G. B., Johnstown, Pa.
Porter, David R., Kansas City, Mo.
Porter, W. A., Chicago.
Pottenger, F. M., Monrovia, Cal.
Potter, Nathaniel Bowditch, New York City.
Potter, Will H., Niagara Falls, N.Y.
Potter, Theodore, Indianapolis, Ind.
Pratt, John H., Manchester, N. Y.
Pratt, Joseph H., Boston.
Price, C. E., Robinson, Ill.
Prickitt, Elmer D., Mount Holly, N. J.
Pursell, Howard, Bristol, Pa.
Quick, T. C., Falls Church, Va.
Rahter, C. A., Harrisburg, Pa.
Ramsdell, John L., Albion, Mich.
Raymond, F. S., Memphis, Tenn.
Reading, George Evans, Woodbury, N. J.
Redus, W. D., Port Gibson, Miss.
Reed, Boardman, Alhambra, Cal.
Reichard, N. W., Bangor, Pa.
Reid, David W., Jacksonville, Ill.
Reid, H. L., Charleston, Mo.
Reiley, Edward A., Atlantic City, N. J.
Reinle, George G., Oakland, Cal.
Rememund, C. A., Junction City, Kan.
Rentschler, Harry F., Reading, Pa.
Reynolds, James C., Lake Geneva, Wis.
Reynolds, Walter, Atlantic City, N. J.
Richard, Florence Harvey, Philadelphia.
Richards, Raymond G., St. David, Ill.
Richards, S. S., Frankfort, N. Y.
Richter, Arthur J., Chicago.
Riddle, Julia, Oshkosh, Wis.
Ridgway, William F., Atlantic City, N. J.
Riegel, H. H., Catasauqua, Pa.
Riese, B. L., Chicago.
Riesman, David, Philadelphia.
Rigg, J. E., Wilkinsburg, Pa.
Ringland, Joseph B., Oswego, N. Y.
Robbins, G. E., Chillicothe, Ohio.
Roberts, Dudley D., Brooklyn, N. Y.
Robertson, William Egbert, Philadelphia.
Robin, Albert, Wilmington, Del.
Robson, John A., Hall's Corners, N. Y.
Rochester, De Lancey, Buffalo, N. Y.
Roebuck, J. Paul, Lititz, Pa.
Rothwell, W. P., Pawtucket, R. I.
Roussel, Albert E., Philadelphia, Pa.
Rowley, Robert L., Hartford, Conn.
Roy, Philip S., Washington, D. C.
Ruch, Charles F., Summit Hill, Pa.
Ruff, William F., Philadelphia, Pa.
Rulison, L. B., Watervliet, N. Y.
Russell, S. J., Springfield, Mass.
Rutherford, J. E., Ridgway, Pa.
Sailer, Joseph, Philadelphia.
Salor, William S., Trenton, N. J.
Salinger, Julius L., Philadelphia.
Samson, H. M., Lancaster, Ohio.
Sanborn, George P., Boston.
Sawyer, John P., Cleveland, Ohio.
Sauer, J. George, New York City.
Saul, Charles H., Steelton, Pa.
Schauffler, William Gray, Lakewood, N. J.
Schechle, J. Evans, Philadelphia.
Schleiter, H. G., Pittsburg, Pa.
Schock, Harvey E., Philadelphia.
Schoonmaker, Irving R., Philadelphia.
Schulz, F. M., Wauwatosa, Wis.
Schweer, T. J., Beardstown, Ill.
de Schweinitz, George Lord, Philadelphia, Pa.
Scott, George, Atlantic City, N. J.
Scott, John Mc.P., Hagerstown, Md.
Scott, S. H., Coatesville, Pa.
Scribner, Charles H., Paterson, N. J.
Seabrook, Alice M., Philadelphia.
Seibert, W. H., Steelton, Pa.
Settle, George M., Baltimore, Md.
Sharpe, E. S., Atlantic City, N. J.
Sharpe, Frank M., Brooklyn, N. Y.
Sharpless, William T., West Chester, Pa.
Shattuck, F. C., Boston.
Shattuck, George Cheever, Boston.
Shaut, Frank C., Addison, N. Y.
Shaw, L. M., Osceola, Neb.
Shearer, James Y., Sinking Spring, Pa.
Sheldon, Charles S., Madison, Wis.
Shellenberger, J. R., Philadelphia.
Shelley, A. A., Galena, Kan.
Shepherd, I. M., Trenton, N. J.
Shipps, William H., Bordentown, N. J.
Shoemaker, Albert M., White Haven, Pa.
Shulz, P. David, New York City.
Shuman, Ambrose, Catawissa, Pa.
Simmons, Horace M., Baltimore, Md.
Simon, Sidney K., New Orleans, La.
Simonton, Thomas Grier, Pittsburg, Pa.
Sisco, P. S. Bourdeau-, Washington,
Smiley, T. B., Mt. Vernon, S. D.
Smith, A. B., Wyoming, Pa.
Smith, C. Urban, Baltimore, Md.
Smith, George Carroll, Boston.
Smith, Charles B., Washington, N.J.
Smith, Charles B., Newtown, Pa.
Smith, E. Franklin, New York City.
Smith, Edmund L., Schellburg, Pa.
Smith, Frederick B., Watertown, N. Y.
Smith, G. H., Knightstown, Md.
Smith, Myrtle, Worcester, Mass.
Smith, Webster S., Dayton, Ohio.
Snider, S. J., Courtland, Kan.
Snyder, Francis J., York, Pa.
Souder, L. R., Ventnor, N. J.
Spiach, A. B., Chicago, Ill.
Springer, Willard, Wilmington, Del.
Squier, A. O., Springfield, Mass.
Staebler, David M., Brooklyn, N. Y.
Starbuck, J. Clinton, Media, Pa.
Starke, G., New York City.
Starkweather, C. L., Occoquam, Va.
Steen, W. D., New York City.
Stella, Antonio, New York City.
Stengel, Alfred, Philadelphia.
Stern, Heinrich, New York City.
Stevens, Andrew J., Malden, Mass.
Stevens, J. W., Brooklyn, N. Y.
Stevenson, Alexander F., Chicago.
Stewart, Charles E., Battle Creek, Mich.
Stewart, W. Blair, Atlantic City, N. J.
Stickney, V. H., Dickinson, N. D.
Stockdale, T. H., Rural Valley, Pa.
Stockton, Charles G., Buffalo, N. Y.
Stoddard, C. H., Milwaukee, Wis.
Stone, Arthur K., Boston.
Stout, Henry R., Wenonah, N. J.
Strickler, A. W., Scottdale, Pa.
Strother, F. P., Madisonville, Ky.
Strouse, Solomon, Baltimore, Md.
Sullivan, John F., New Haven, Conn.
Summerill, J. M., Penn Grove, N. J.
Swan, John M., Philadelphia.
Swan, W. S., Harrisburg, Ill.
Swayne, Eugene, Philadelphia.
Talley, James E., Philadelphia, Pa.
Taylor, Frederic W., Cambridge, Mass.
Taylor, J. Gurney, Philadelphia.
Taylor, L. C., Springfield, Ill.
Thomas, Arthur R., West Eaton, N. Y.
Thompson, G. W., Winamac, Ind.
Thornton, William H., Buffalo, N.Y.
Tice, Frederick, Chicago.
Tileston, Wilder, Boston.
Thomas, Anne H., Philadelphia.
Thomas, Frank W., Philadelphia.
Tolman, Julia, Arlington, Mass.
Tomlinson, O. R., Tate Springs, Tenn.
Tomlinson, Peter W., Wilmington, Del.
Tompkins, McCaw, Richmond, Va.
Traver, S. N., Steelton, Pa.
Trexler, J. A., Brodheadsville, Pa.
Troutman, John, Kansas City, Kan.
Tukey, Frank M., Bridgeport, Conn.
Tuttle, Charles A., New Haven, Conn.
Tuttle, Lucius, Philadelphia.
Tyson, James, Philadelphia.
Underwood, S. L., Pittston, Pa.
Upham, J. H. J., Columbus, Ohio.
Vander Hoof, Douglas, Richmond, Va.
Van Dervoort, C. A., Philadelphia.
Van Etten, Nathan B., New York City.
Van Gaskin, Frances C., Philadelphia.
Variell, Arthur D., Waterbury, Conn.
Waddington, B. A., Salem, N. J.
Wade, John W., Millville, N. J.
Wagner, Otto, Elizabeth, N. J.
Waite, J. E., Lodi, Ohio.
Walker, James B., Philadelphia.
Wallace, William C., Pittsburg, Pa.
Wallace, N. C., Dover, Pa.
Wallin, Matilda K., New York City.
Wallis, J. Edw., Philadelphia.
Walsh, Thomas J., Buffalo, N. Y.
Walsh, Thomas N., Hawkeye, Iowa.
Ward, E. Tillson, Philadelphia.
Ward, John P., Vevay, Ind.
Ware, F. V., Millville, N. J.
Warner, Robert A., Baltimore, Md.
Way, Eugene, Dennisville, N. J.
Weaver, Joseph K., Norristown, Pa.
Weeks, Dana O., Marion, Ohio.
Welch, William C., New Haven, Conn.
Welker, Franklin, New York City.
Wells, Edward F., Chicago.
Wenner, E. Bruce, Philadelphia.
Wentz, B. F., Philadelphia.
West, Edward G., Boston.
West, S. Leslie, Philadelphia.
Wertman, A. A., Tannersville, Pa.
Wheeler, Frank D., Detroit, Mich.
Whitcomb, Harry H., Norristown, Pa.
White, Edward C., U. S. Navy.
White, Franklin W., Boston.
Wiegand, William E., Baltimore, Md.
Wilkinson, H. B., Montgomery, Ala.
Willetts, Ernest W., Pittsburg, Pa.
Williams, J. R., Rochester, N. Y.
Williams, Pearl, Providence, R. I.
Williams, W. T., Mt. Carmel, Pa.
Wilson, A. S., Bristol, Pa.
Wilson, James H., Fowlerburg, Md.
Wilson, L. D., Wheeling, W. Va.
Wilson, Robert, Jr., Charleston, S. C.
Wilson, Ward O., Clearfield, Pa.
Witherspoon, J. A., Nashville, Tenn.
Witter, Orin R., Hartford, Conn.
Woehnert, Albert E., Buffalo, N. Y.
Wolfe, Samuel, Philadelphia.
Wolford, Martin L., Harrisburg, Pa.
Wood, L. C., Poughkeepsie, N. Y.
Woodhead, H. Irvin, Forksville, Pa.
Woodruff, J. B., Johnstown, Pa.
Woods, J. H., Brookline, Mass.
Woods, William W., Rixford, Pa.
Woodward, H. L., Cincinnati, Ohio.
Woodward, Louis K., Westminster, Md.
Woodyard, S. W., Greeneville, Tenn.
Woofter, A. J., Weston, W. Va.
Wynn, Frank B., Indianapolis, Ind.
Yaeger, Christian G., Philadelphia.
Yates, Frederick, Washington, D. C.
Yates, H. Wellington, Detroit, Mich.
Yeager, George C., Philadelphia.
Zimlick, Arthur J., Philadelphia.
Ziminger, George F., Canton, Ohio.

Obstetrics and Diseases of Women

Abbott, B. T., Ocean City, N. J.
Abbe, Truman, Washington, D. C.
Abrams, Edward T., Dollar Bay, Mich.
Adams, Charles T., Philadelphia.
Alexander, A. F., Paterson, N. J.
Allen, M. May, Rochester, N. Y.
Anderson, H. G., Waterbury, Conn.
Anspach, Brooke M., Philadelphia.
Arnold, J. O., Philadelphia.
Astley, G. Mason, Philadelphia.
Ayer, Silas Hibbard, Boston, Mass.
Bacon, Charles S., Chicago.
Baer, J. S., Camden, N. J.
Bainbridge, William Seaman, New York City.
Barnes, Charles S., Philadelphia.
Barnes, Samuel S. P., Massillon, O.
Barrett, Channing, W., Chicago.
Bantistella, Leo Joanna, New York City.
Beck, C. E., Portland, Pa.
Becker, John N., Reading, Pa.
Benjamin, Arthur E., Minneapolis, Minn.
Blanchard, Francis R., Lakeview, Mich.
Bland, Curtis, Greensburg, Ind.
Bland, P. B., Philadelphia.
Boldt, H. J., New York City.
Bovée, J. W., Washington, D. C.
Bowers, L. G., Dayton, Ohio.
Boyd, G. M., Philadelphia.
Brandt, A. M., Bismarck, N. D.
Briggs, A. B., Ashaway, R. I.
Briggs, Henry W., Wilmington, Del.
Broadrup, G. L., Cumberland, Md.
Bronk, Edmund F., Amsterdam, N.Y.
Bryan, W., New York City.
Buell, Mary Catherine, Cumberland, Md.
Bull, Maud L., Marion, Ohio.
Bullard, Rose T., Los Angeles, Cal.
Bunn, Ralph A., Dayton, Ohio.
Bunting, P. Du Bois, Elizabeth, N. J.
Burch, L. E., Nashville, Tenn.
Burt, F. C., Hammonton, N. J.
Carstens, J. H., Detroit, Mich.
Carter, Helen L., Newark, N. J.
Chandler, Swithin, Philadelphia, Pa.
Chard, Marie L., New York City.
Chase, Walter B., Brooklyn, N. Y.
Clark, John E., Philadelphia, Pa.
Clark, S. M. D., New Orleans, La.
Cleland, F. A., New York City.
Cohen, Bernard, Buffalo, N. Y.
Coles, Stricker, Philadelphia.
Conaway, Walt P., Atlantic City, N. J.
Cotter, E. J., Boston.
Cowle, Fannie W., Hot Springs, Ark.
Craighead, Claude C., Athens, La.
Cregar, Peter B., Plainfield, N. J.
Crosby, William Smith, Philadelphia.
Crossen, H. S., St. Louis, Mo.
Da Costa, John C., Philadelphia.
Darnall, William Edgar, Atlantic City, N. J.
Davis, Daniel W., Wellston, Ohio.
Davis, Ella M., Holyoke, Mass.
Davis, E. W., Seymour, Conn.
Davis, Fannie, Oil City, Pa.
Davis, James C., Rochester, N. Y.
Day, Mary Gage, Kingston-on-Hudson, N. Y.
Deal, John Colton, Philadelphia.
Dolley, Gilman C., Philadelphia.
Donoghue, Frances V., Boston.
Dorland, W. A. Newman, Philadelphia.
Dorsett, Walter B., St. Louis, Mo.
Druskin, Samuel J., New York City.
Dubell, J. Eldridge, Columbus, N. J.
Duncan, H. A., Philadelphia.
Fisher, John M., Philadelphia.
Fithian, Joel W., Camden, N. J.
Fluemer, Oswald C., Mt. Clemens, Mich.
Fort, R. E., Nashville, Tenn.
Foster, Frank P., New York City.
Foye, A. Frances, Washington, D. C.
Frederick, Carlton C., Buffalo, N. Y.
Fry, Henry D., Washington, D. C.
Furniss, H. D., New York City.
Gallager, Harry Glenolden Dells, Pa.
Gallant, A. Ernest, New York City.
Gardner, William S., Baltimore, Md.
Garrabrant, C., Atlantic City, N. J.
Girvin, John H., Philadelphia.
Golden, William W., Elkins, W. Va.
Goodrich, William A., Waterbury, Conn.
Grad, H., New York City.
Greene, Mary T., Castile, N. Y.
Greene, Thomas F., Boston.
Hackett, Emma C., Chicago.
Hall, Rufus B., Cincinnati, Ohio.
Hamilton, S. S., Punxsutawney, Pa.
Hammond, Frank C., Philadelphia.
Harris, Philander A., Paterson, N. J.
Harvey, E. Marshall, Media, Pa.
Haskins, Mary G., Detroit, Mich.
Hazlett, Edgar M., Washington, Pa.
Heineberg, Alfred, Philadelphia.
Heinecke, George B., Washington, D. C.
Higgins, Charles W., Providence, R. I.
Hill, I. L., New York City.
Hill, W. B., Milwaukee, Wis.
Hodgins, Arthur G., Honolulu, Hawaii.
Howell, W. H., Altoona, Pa.
Hunner, Guy L., Baltimore, Md.
Ill, Edward J., Newark, N. J.
Jack, Harvey P., Canisteo, N. Y.
Jacob, Louis H., Philadelphia.
Jewett, Charles, Brooklyn, N. Y.
Johnson, Burt C., Buffalo, N. Y.
Johnson, H. L. E., Washington, D.C.
Jones, Thomas, Philadelphia.
Keim, William Franklin, Newark, N. J.
Keller, *Franklin J.*, Paterson, N. J.
Kelly, Howard A., Baltimore, Md.
Keyes, J. J., Brooklyn, N. Y.
Kight, Rufus S., Norfolk, Va.
Koons, Philip Rankins, Mechanicsburg, Pa.
Kosmak, George W., New York City.
Krusen, Wilmer, Philadelphia.
Leavitt, John F., Camden, N. J.
Leof, M. V., Philadelphia.
Lessig, J. A., Schuylkill Haven, Pa.
Liell, Edward N., Jacksonville, Fla.
Lockrey, Sarah H., Philadelphia.
Longenecker, C. B., Philadelphia.
Lothrop, Earl P., Buffalo, N. Y.
Luburg, L. F., Philadelphia.
Macfarlane, Catharine, *Philadelphia.*
Maertz, Charles, Cincinnati, Ohio.
Mallett, G. H., New York City.
Manton, Walter P., Detroit, Mich.
Marche, E. J., Canton, Ohio.
Marcy, Henry O., Boston.
Marshall, R. J., East Liverpool, O.
Martindale, J. W., Camden, N. J.
Martin, Elizabeth L., Pittsburg, Pa.
Martine, Angeline, Utica, N. Y.
Massey, G. Betton, Philadelphia.
Mathews, William J., Hoboken, N. J.
McCune, Virginia, Martinsburg, W. Va.
McDonald, Ellice, New York City.
McDougald, John Q., Philadelphia.
McGlinn, John A., Philadelphia.
McKenney, D. C., Buffalo, N. Y.
McMenamin, F. J., Highland Falls, N. Y.
McNutt, Sarah J., New York City.
McParlan, John P., New York City.
McPherson Ross, New York City.
McVeigh, James A., Detroit, Mich.
Miles, Clarence C., Greenport, N. Y.
Miller, C. Jeff, New Orleans, La.
Miller, G. Brown, Washington, D. C.
Miller, Harold A., Pittsburg, Pa.
Miller, S. M., Knoxville, Tenn.
Mills, Henry M., Brooklyn, N. Y.
Mitchell, Robert L., Baltimore, Md.
Monagan, Charles, A., Waterbury, Conn.
Mondhank, R. W., Lancaster, Ohio.
Montgomery, E. E., Philadelphia.
Morris, C. A., San Francisco, Cal.
Morrison, Robert, Pittsburg, Pa.
Mosher, Eliza M., Brooklyn, N. Y.
Mosher, George Clark, Kansas City, Mo.
Nelson, Ida M., Shively-Oklahoma City, Okla.
Norris, Richard C., Philadelphia.
Novak, Emil, Baltimore, Md.
Offutt, Lemuel, Greensburg, Pa.
Osborne, Henry Manning, Youngstown, Ohio.
Pantzer, H. O., Indianapolis, Ind.
Parke, William E., *Philadelphia, Pa.*
Peterson, Reuben, Ann Arbor, Mich.
Pitts, Herman C., Providence, R. I.
Polak, John Osborne, Brooklyn, N.Y.
Potter, Irving W., Buffalo, N. Y.
Potter, Marion Craig, Rochester, N.Y.
Potter, William Warren, Buffalo, N. Y.
Powell, Cuthbert, Denver, Colo.
Purnell, Caroline M., Philadelphia.
Putt, Maurice O., Oberlin, Pa.
Quayle, John H., Cleveland, Ohio.
Reed, Charles A. L., Cincinnati, O.
Ressler, G. W., Ashland, Pa.
Reynolds, Charles B., Philadelphia.
Richards, J. N., Fallsington, Pa.
Richardson, Emma M., Camden, N.J.
Risk, Winthrop A., Providence, R. I.
Rosenthal, Max, New York City.
Ross, D. C., Fort Worth, Texas.
Russell, William Wood, Baltimore, Md.
Sanes, Kay I., Pittsburg, Pa.
Sawyer, Charles J., Windsor, N. C.
Scarnecchia, Joseph, Youngstown, O.
Schenck, Benjamin R., Detroit, Mich.
Schmeling, A. F., Columbus, Wis.
Schweikart, Frederick J., Elmhurst, N. Y.
Schroeter, Ludwig, Buffalo, N. Y.
Schumann, Edward A., Philadelphia, Pa.
Schwarz, Henry, St. Louis, Mo.
Scull, William B., Philadelphia.
Seegar, J. K. B. E., Baltimore, Md.
Seiss, F. H., Taneytown, Md.
Shimer, Sterling D., Easton, Pa.
Shoemaker, George Erety, Philadelphia.
Shoop, Frederic J., Brooklyn, N. Y.
Simpson, F. F., Pittsburg, Pa.
Sledge, W. H., Mobile, Ala.
Small, W. B., Philadelphia.
Smith, Clarence D., Philadelphia.
Smith, Cassas, Olean, N. Y.
Smith, Richard R., Grand Rapids, Mich.
Spiller, William H., New York City.
Spurney, A. F., Cleveland, Ohio.
Stahl, Alfred, Newark, N. J.
Steedly, B. B., Spartanburg, S. C.
Stein, Arthur, New York City.
Stein, Newton H., Middleport, Pa.
Stein, George W., Norristown, Pa.
Stewart, Otto K., Canisteo, N. Y.
Stewart, Zeller White, Grand Forks, N. D.
Stillwagen, Charles A., Pittsburg, Pa.
Stone, Isaac Scott, Washington, D. C.
Strasser, August Adrian, Arlington, N. J.
Strobell, C. W., Rutland, Vt.
Strong, C. M., Charlotte, N. C.
Strouss, U. S., Beaver, Pa.
Stuckle, W. P., Clyde, Mo.
Swahlen, Percy H., St. Louis, Mo.
Taggart, David, Frackville, Pa.
Taneyhill, G. Lane, Baltimore, Md.
Thompson, Charles O., Boston, Massachusetts.
Timmerman, Charles F., Amsterdam, N. Y.
Todd, Frank L., Pittsburg, Pa.
Townsend, Mary E., Atlantic City, N. J.
Tracy, S. E., Philadelphia.
Trevaskis, A. L., Turtle Creek, Pa.
Trumbower, M. R., Monett, Mo.
Ulrich, Katharine, Chester, Pa.
Underwood, E. S., Akron, Ohio.
Vandervoort, Louie E., Battle Creek, Mich.
Vernier, Jean A., Detroit, Mich.
Von Tobel, Frederic, Lebanon, N. H.
Waldo, Ralph, New York City.
Walker, Edwin, Evansville, Ind.
Walton, L. S., Jenkintown, Pa.
Ward, George Gray, Jr., New York City.
Weber, George T., Olney, Ill.
Weiss, Edward A., Pittsburg, Pa.
Welch, H. E., Youngstown, Ohio.
Welch, John E., New York City.
Wetherill, Horace G., Denver, Colo.
White, Benjamin W., Bridgeport, *Conn.*
White, George R., Savannah, Ga.
Whiteaker, Hall, Mound City, Ill.
Wilson, Jefferson H., Beaver, Pa.
Wilson, W. Reynolds, Philadelphia.
Winebrake, Albert J., Scranton, Pa.
Wintersteen, J. Boone, Moorestown, N. J.
Wobus, R. E., St. Louis, Mo.
Woodruff, W. Stuart, Mt. Vernon, N. Y.

Surgery

Adams, C. M., *Williamsport Pa.*
Adler, Lewis N., Jr., Philadelphia, Pa.
Albee, Fred H., New York City.
Alderson, S. P., Russellville, Ky.
Allaben, J. E., Rockford, Ill.
Allen, Carroll W., New Orleans, La.
Allen, H. R., Indianapolis, Ind.
Allen, John Thomas, Brownsville, Tenn.
Allenburger, C. A., Columbus, Neb.
Anderson, J. Howard, Marytown, W. Va.
Armstrong, Alex, White Haven, Pa.
Ashley, Dexter D., New York City.
Atlee, John L., Lancaster, Pa.
Ayres, Douglas, Fort Plain, N. Y.
Babcock, W. Wayne, Philadelphia.
Bacon, H. Augustus, Philadelphia.
Bacon, Wm. F., York, Pa.
Bagley, Charles, Jr., Baltimore, Md.
Baird, Ben D., Galesburg, Ill.
Baker, Arch E., Charleston, S. C.
Baldwin, James H., Philadelphia, Pa.
Ball, Francis P., Lock Haven, Pa.
Ballin, Max, Detroit, Mich.
Bandy, Elizabeth R., Philadelphia.
Barker, F. Dale, Dayton, Ohio.
Barnett, Charles E., Ft. Wayne, Ind.
Barkley, A. H., Lexington, Ky.
Barney, J. Dellinger, Boston, Mass.
Barrell, Daniel A., Auburn, Maine.
Barsumian, H. G., Lancaster, Pa.
Bartlett, C. W., Bennington, Vt.
Bartlett, Willard, St. Louis, Mo.
Bastian, J. W., Wilmington, Del.
Batchelor, W. A., Milwaukee, Wis.
Baugh, A. W., Paoli, Pa.
Baxter, Stephen H., Minneapolis, Minn.
Bay, Robert P., Baltimore, Md.
Beach, William M., Pittsburg, Pa.
Beck, Carl, Chicago, Ill.
Beck, Emil G., Chicago, Ill.
Beckett, W. W., Los Angeles, Cal.
Behle, Augustus C., Salt Lake City, Utah.
Behrend, Moses, Philadelphia.
Beilby, George E., Albany, N. Y.
Bell, *G. Franklin*, Williamsport, *Pa.*
Bell, Lloyd J., Millen, Ga.
Benepe, John L., San Jose, Cal.
Bentley, Edwin, Little Rock, Ark.
Berlin, H., [illegible]
Bevan, Arth[illegible]
Bishop, Wil[illegible] Pa.
Bittinger, J. H., Hanover, Pa.
Black, William, Memphis, Tenn.
Blake, Charles F., Baltimore, Md.
Blake, John Bapst, Boston.
Blake, John D., Baltimore, Md.
Blasucci, Erneste, New York.
Block, J., Kansas City, Mo.
Bloodgood, Joseph Colt, Baltimore, Md.
Boerstler, George W., Lancaster, O.
Bosher, Lewis C., Richmond, Va.
Bottomley, John Taylor, Boston.
Boucher, J. B., Hanford Conn.
Bowden, David T., Paterson, N. J.
Bowen, A. B., Maquoketa, Iowa.
Boyce, D. W., Allegheny, Pa.
Braasch, W. F., Rochester, Minn.
Brant, Austin C., Canton, Ohio.
Brav, Herman A., Philadelphia, Pa.
Brennan, James H., New Rochelle, N. Y.
Brick, J. Coles, Philadelphia.
Brickner, W. M., New York City.
Briggs, C. E., Cleveland, Ohio.
Bristow, Algernon Thomas, New York City.
Bristow, G. M., *Princeton*, Mo.
Britt, W. Warren, Tonawanda, N. Y.
Brockman, D. C., Ottumwa, Iowa.
Brotherlin, H. H., Hollidaysburg, Pa.
Brown, H. R., Chillicothe, Ohio.
Brown, David Chester, Danbury, Conn.
Brown, Israel, Norfolk, Va.
Brown, J. S., Montclair, N. J.
Brown, Rexwald, Santa Barbara, Cal.
Bruin, M. R., Strasburg, Va.
Bryant, Joseph D., New York City.
Buchanan, J. J., Pittsburg, Pa.
Buehler, William E., Chicago.
Buechner, W. H., Youngstown, Ohio.
Binnie, John F., Kansas City, Mo.
Brill, H. R., Grand Junction, Colo.
Brinkman, Leon, Philadelphia.
Burkholder, John L., New Castle, Pa.
Burnham, J. Forrest, Lawrence, Mass.
Butler, Joel D., Springfield, Mass.
Buxton, Joseph T., Newport News, Va.
Cale, Geo. W., Jr., St. Louis, Mo.
Calkins, Irving R., Springfield, Mass.
Campbell, A. J., Syracuse, N. Y.
Campbell, William Francis, *Brooklyn*, N. Y.
Campbell, Alexander Mackenzie, Grand Rapids, Mich.
Canedy, Charles F., Greenfield, Mass.
Cannaday, John E., Charleston, W. Va.
Cannon, T. Harris, *Baltimore, Md.*
Cantrell, C. E., Greenville, Texas.
Carman, R. D., St. Louis, Mo.
Carmany, Harry S., Philadelphia.
Carnett, J. B., Philadelphia.
Carroll, Albert Hynson, Baltimore, Md.
Carson, George T., Chatsworth, Ill.
Cassady, J. B., Burlington, N. J.
Cathcart, Robert S., Charleston, S. C.
Cavanaugh, Thomas Edward, Milwaukee, Wis.
Chandler, William J., South Orange, N. J.
Cheyne, Walter, Sumter, S. C.
Chilton, J. C., Hannibal, Mo.
Christensen, Christian, La Crosse, Wis.

Chute, Arthur L., Boston.
Clagett, L. S., Blairsville, Pa.
Clark, W. A., San Leandro, Cal.
Clarkson, J. A., Lewiston, Pa.
Claybrook, E. B., Cumberland, Md.
Clemons, E. Jay, Aberdeen, S. D.
Clifton, Harry C., Hartford, Conn.
Coats, Albert James, Lincoln, Neb.
Cochems, Frank N., Salida, Colo.
Coe, Ben F., Dixonville, Pa.
Cohen, Haskell M., Denver, Colo.
Colcord, A. W., Clairton, Pa.
Cole, Thomas P., Greensburg, Pa.
Collins, Clifford U., Peoria, Ill.
Collins, James, Bristol, Pa.
Collins, J. H., Schenectady, N. Y.
Collins, T. K., Philadelphia.
Combs, George W., Indianapolis, Ind.
Connell, F. Gregory, Oshkosh, Wis.
Connelly, Daniel, Kingston, N. Y.
Conner, Milton C., Middletown, N. Y.
Cook, Charles P., New Albany, Ind.
Cook, George, Concord, N. H.
Cook, H. F., Newark, N. J.
Cooke, A. B., Nashville, Tenn.
Cornish, P. G., Albuquerque, N. M.
Cory, Horace C., Newark, N. J.
Coulthard, G. H., Idaho Falls, Idaho.
Covert, O. F., Moundsville, W. Va.
Cox, Allen E., Helena, Ark.
Craig, Joseph D., Albany, N. Y.
Crain, M. Richards, Rutland, Vt.
Crane, A. A., Waterbury, Conn.
Crawford, G. E., Cedar Rapids, Iowa.
Creveling, J. P., Auburn, N. Y.
Crisler, Julius, Jackson, Miss.
Crook, Jere L., Jackson, Tenn.
Crosby, William D., Washington, D. C.
Crowe, Willis H., New Haven, Conn.
Crowell, A. J., Charlotte, N. C.
Crueger, Edward A., Philadelphia.
Crumb, J. Mott, South Ostelic, N. Y.
Culbertson, N. W., Massillon, Ohio.
Cummins, T. J., Plattsburg, N. Y.
Cunningham, John G., Spokane, Wash.
Cunningham, W. M., Corona, Ala.
Curran, G. R., Mankato, Minn.
Cushing, Harvey, Baltimore, Md.
Cutts, William B., Providence, R. I.
Da Costa, J. Chalmers, Philadelphia.
Dacey, C. J., Brockton, Mass.
Darrach, William, New York City.
Daugherty, Charles A., South Bend, Ind.
David, V. C., Chicago.
Davidson, Arthur J., Philadelphia.
Davis, George G., Chicago.
Davis, Gwilym G., Philadelphia.
Davis, Lincoln, Boston.
Davis, S. Griffith, Baltimore, Md.
Davison, Charles, Chicago.
Deaver, H. C., Philadelphia.
Deaver, John B., Philadelphia.
Decker, C. J., Washington, D. C.
De Garmo, William B., New York City.
Deibel, H. W., Wilkes-Barre, Pa.
Despard, Duncan L., Philadelphia.
Dick, Andrew J., Watertown, N. Y.
Dixon, Taylor B., Washington, D. C.
Doern, W. G., Milwaukee, Wis.
Dolan, T. E., Elizabeth, N. J.
Dolphin, Benjamin E., New York City.
Donaldson, Walter F., Pittsburg, Pa.
Donkle, L. B., Chicago.
Dougherty, A. F., Ashley, Pa.
Dowd, Charles N., New York City.
Drake, H. H., Norristown, Pa.
Draper, James A., Wilmington, Del.
Du Bose, F. G., Selma, Ala.
Duffield, E. Mortimer, Glassboro, N. J.
Duncan, James A., Toledo, Ohio.
Dunham, Frank, Robinson, Ill.
Dye, Willoughby G., Deer Lodge, Mont.
Earle, Samuel T., Jr., Baltimore, Md.
Earle, Curran B., Greeneville, S. C.
Eberhard, Le Roy C., Akron, Ohio.
Echard, Thomas B., Connellsville, Pa.
Echols, Chester M., Milwaukee, Wis.
Egan, Gregory J., La Crosse, Wis.
Eisenberg, John Lawrence, Norristown, Pa.
Elder, Frank H., Philadelphia.
Ellis, J. B., Sherman, Texas.
Elsberg, Charles A., New York City.
English, R. M., Danbury, Conn.
Erdmann, A. F., Brooklyn, N. Y.
Eschbach, H. C., Albia, Iowa.
Estes, W. L., S. Bethlehem, Pa.
Evans, G. B., Dayton, Ohio.
Evans, Edward, La Crosse, Wis.
Evans, W. Knowles, Chester, Pa.
Eve, Duncan, Jr., Nashville, Tenn.
Ewens, Arthur E., Atlantic City, N. J.
Fairchild, D. T., Clinton, Iowa.
Farquhar, George W., Pottsville, Pa.
Faris, C. M., Sacramento, Cal.
Farrar, J. D., Philadelphia, Pa.
Faust, William P., Schenectady, N.Y.
Fell, Alex G., Wilkes-Barre, Pa.
Fell, George Edward, Buffalo, N. Y.
Felty, J. W., Hartford, Conn.
Ferguson, Robert Henry, Boston.
Finn, Fred A., Jersey City, N. J.
Finney, J. M. T., Baltimore, Md.
Fisher, V. L., Mt. Vernon, Ohio.
Fleming, J. C., Elkhart, Ind.
Fletcher, Fred, Columbus, Ohio.
Fletcher, M. H., Asheville, N. C.
Formad, Marie K., Philadelphia.
Forwood, J. L., Chester, Pa.
Foster, W. Ross, Crafton Sta., Pittsburg, Pa.
Fowler, Harry A., Washington, D. C.
Fox, Frank E., Fulton, N. Y.
Frauenthal, Henry W., New York City.
Franklin, Melvin M., Philadelphia.
Frazer, Charles H., Philadelphia.
Freeman, Leonard, Denver, Colo.
Freligh, C. N., Plum City, Wis.
French, Samuel, Meeker, Colo.
Fuller, Eugene, New York City.
Fulton, Z. M. K., Philadelphia.
Fulton, William S., Wheeling, W. Va.
Gable, Isaac C., York, Pa.
Gaines, John A., Nashville, Tenn.
Galehouse, F. C., San Rafael, Cal.
Gant, S. G., New York City.
Gardner, H. D., Scranton, Pa.
Garwood, Harold G., Gorham, Colo.
Gastram, A. H., Remsen, Iowa.
Gaub, Otto C., Pittsburg, Pa.
Gaughan, M. C., Pittston, Pa.
Gay, George W., Boston.
Gay, Samuel G., Selma, Ala.
Gensburg, Nate, Philadelphia.
Geraghty, John T., Baltimore, Md.
Germain, Harry Homer, Boston.
Gerrish, M. F., Seymour, Ind.
Giannini, B. E., Coalmont, Ky.
Gibbon, John H., Philadelphia.
Gibby, Herbert B., Wilkes-Barre, Pa.
Gilbride, John J., Philadelphia.
Gillette, William J., Toledo, Ohio.
Gleason, John H., Manchester, N. H.
Glendon, W. P., Cedarville, N. J.
Glidden, Stephen C., Danville, Ill.
Goldspohn, Albert, Chicago.
Goldstein, David D., New York City.
Goldthwait, Joel E., Boston.
Goodhue, George, Dayton, Ohio.
Goodman, Sylvester J., Columbus, Ohio.
Goodwin, E. M., Cleveland, Ohio.
Goodwin, J. J., Clinton, Mass.
Goodwin, William M., Newark, N. J.
Gorman, T. C., Anamosa, Iowa.
Graham, Alois B., Indianapolis, Ind.
Graham, D. W., Chicago.
Graham, Evarts A., Chicago.
Grant, W. W., Denver, Colo.
Graves, Schuyler Colfax, Grand Rapids, Mich.
Graves, William B., East Orange, N. J.
Gray, A. L., Richmond, Va.
Green, Edward E., Brooklyn, N. Y.
Green, Frederick R., Chicago.
Green, H. L., Toledo, Ohio.
Green, G. W., Chicago.
Green, James S., Elizabeth, N. J.
Green, N. W., New York City.
Griffith, Jefferson D., Kansas City, Mo.
Gromann, John, Utica, N. Y.
Grove, Austin M., York, Pa.
Grube, John E., Punxsutawney, Pa.
Gurvey, Major Samuel C., Manila, P. I.
Guthrie, George W., Wilkes-Barre, Pa.
Guthrie, William A., Franklin, Ky.
Guthrie, William E., Bloomington, Ill.
Gwathmey, James T., New York City.
Gwathmey, Lomax, Norfolk, Va.
Haecker, Lewis E., Hampton, Iowa.
Haggard, William D., Nashville, Tenn.
Hagner, Francis R., Washington, D.C.
Hahn, L. A., Guthrie, Okla.
Haines, F. G., Warren, Pa.
Haines, W. D., Cincinnati, Ohio.
Hammer, A. Wiese, Philadelphia.
Hammond, L. J., Philadelphia.
Harvey, T. W., Orange, N. J.
Harpole, Charles B., Evansville, Ind.
Harrington, W. M., Springfield, Mass.
Harris, C. E., Bloomington, Ind.
Harris, M. L., Chicago.
Harrison, A. C., Baltimore, Md.
Harshberger, Alexander S., Lewistown, Pa.
Hartford, P. C., E. Palestine, Ohio.
Hartwell, John A., New York City.
Hartwell, Harry F., Boston.
Hartwig, Marcell, Buffalo, N. Y.
Hatch, Leonard F., Vineland, N. J.
Hauser, Charles D., Youngstown, Ohio.
Haussling, Francis R., Newark, N. J.
Hawkins, A. H., Cumberland, Md.
Hawkins, John A., Pittsburg, Pa.
Hawley, D. C., Burlington, Vt.
Hawley, George W., Bridgeport, Conn.
Haworth, E. B., Pittsburg, Pa.
Hoyer, G. C., Milwaukee, Wis.
Heath, Horace, Denver, Colo.
Heazlit, Ledra, Auburn, N. Y.
Hecker, William H., Watseka, Ill.
Hector, William S., Chicago.
Heffner, Oliver C., Pottstown, Pa.
Hendee, Laurence, Buffalo, N. Y.
Hendrick, John A., Shreveport, La.
Hendershot, B. C., New Philadelphia, Ohio.
Henderson, William T., Mobile, Ala.
Henritzy, O. E., Slatington, Pa.
Henson, James W., Richmond, Va.
Herbst, Robert H., Chicago, Ill.
Herrington, W. J., Bad Axe, Mich.
Hertzler, Arthur E., Kansas City, Mo.
Hess, L. T., U. S. Army, Fort Porter, N. Y.
Hetrick, David Jcs., Harrisburg, Pa.
Hewson, Addinell, Philadelphia.
Hicks, Horace M., Amsterdam, N. Y.
Higbee, Wm. S., Philadelphia.
Highsmith, J. F., Fayetteville, N. C.
Hill, T. C., Boston.
Hiller, Hiram M., Chester, Pa.
Hirschman, Louis J., Detroit, Mich.
Holden, W. B., Portland, Ore.
Hotchkiss, Norton Royce, New Haven, Conn.
Horsley, J. Shelton, Richmond, Va.
Horwitz, Orville, Philadelphia.
Hough, Garry de N., New Bedford, Mass.
House, Augustus F. Cleveland, Ohio.
Howe, William, Shingle House, Pa.
Howells, James O., Bridgeport, Ohio.
Hoye, Henry J., Providence, R. I.
Hubbell, William B., Elyria, Ohio.
Hume, Arthur M., Owasso, Mich.
Hunt, William J., Glens Falls, N. Y.
Hunter, John W., Lewistown, Pa.
Hutchings, W. H., Detroit, Mich.
Iglehart, V. E. B., Baltimore, Md.
Inman, Thomas G., San Francisco.
Irvine, William Lorne, Newport, R.I.
Jackson, Jabez N., Kansas City, Mo.
Jackson, Ralph W., Fall River, Mass.
Jacobson, J. H., Toledo, Ohio.
James, T. A., Ashley, Pa.
Janeway, Henry H., New York City.
Daniel of St. Thomas Jenifer, Atlantic City, N. J.
Jennings, Charles G. R., Elmira, N. Y.
Jerome, M. A., Toledo, Ohio.
John, J. S., Bloomsburg, Pa.
Johnson, C. Radcliffe, Sagada, P. I.
Johnson, M. M., Hartford, Conn.
Johnson, T. B., Frederick, Md.
Johnson, Wm. D., Batavia, N. Y.
Jonas, A. F., Omaha, Neb.
Jones, George E., St. Augustine, Fla.
Jones, W. D., Devil's Lake, N. D.
Judd, Edward Starr, Rochester, Minn.
Kahler, J. Frank, Canton, Ohio.
Kane, Charles J., Paterson, N. J.
Kassabian, Mihran K., Philadelphia.
Kean, M. E., Manchester, N. H.
Keefe, John W., Providence, R. I.
Keeler, J. Clarence, Philadelphia.
Kehl, George W., Reading, Pa.
Kelly, W. Webber, Green Bay, Wis.
Kelly, James A., Philadelphia.
Kennedy, James C., Brooklyn, N. Y.
Kennedy, T. C., Shelbyville, Ind.
Kenneth, A. J., Portland, Ore.
Kern, Albert G., Knoxville, Tenn.
Kickland, W. A., Fort Collins, Colo.
Kilbourn, C. L., New Haven, Conn.
Kimball, Rush W., Norwich, Conn.
King, R. Morrison, Concord, N. C.
King, Parks M., Charlotte, N. C.
Kipps, D. M., Front Royal, Va.
Kirby, Halder C., New Bedford, Mass.
Kirby, Frank J., Baltimore, Md.
Kivilin, C. F., Troy, N. Y.
Kline, Luther B., Catawissa, Pa.
Klump, John A., Williamsport, Pa.
Knapp, H. B., Wiconisco, Pa.
Kneer, Ferdinand G., New York City.
Knickerbocker, H. J., Geneva, N. Y.
Knott, Van Buren, Sioux City, Iowa.
Korssell, C. F. P., Chicago.
Kovetsky, J. W., S. Omaha, Neb.
Kreinder, George N., Springfield, Ill.
Krouse, Louis J., Cincinnati, Ohio.
Lachner, B. J., Rock Island, Ill.
Lamade, Albert C., Williamsport, Pa.
Landry, Lucian H., New Orleans, La.
Lane, C. E., Poughkeepsie, N. Y.
Langeway, A. F., Great Falls, Mont.
Laplace, Ernest, Philadelphia, Pa.
Larimore, F. C., Mt. Vernon, Ohio.
Lasher, George W., Los Angeles, Cal.
Lathrop, Walter, Hazleton, Pa.
Latta, Samuel W., Philadelphia.
Laws, George M., Philadelphia.
Laws, William V., Hot Springs, Ark.
Leary, William C., Springfield, Mass.
Lee, B. R., Atlantic City, N. J.
Lehr, Louis C., Washington, D. C.
Lemen, L. E., Denver, Colo.
Leonard, Chas. Lester, Philadelphia.
Lervin, S., Chicago.
Lewis, Bransford, St. Louis, Mo.
Lewis, Charles F., Austin, Minn.
Lewisohn, Richard, New York City.
Leytze, Frank C., Sioux City, Iowa.
Lilley, W. M., Brownsville, Pa.
Linthicum, G. Milton, Baltimore, Md.
Linton, William B., Minneapolis, Minn.
Lippincott, A. Haines, Camden, N.J.
Littig, Lawrence W., Iowa City, Iowa.
Livingston, Theodore P., Plattsmouth, Neb.
Lloyd, R. J., Olyphant, Pa.
Locke, Melvin, Bellefonte, Pa.
Loeb, Victor A., Philadelphia.
Long, John Wesley, Greensboro, N.C.
Longaker, Daniel, Reading, Pa.
Longwell, B. E., Johnstown, Pa.
Loper, J. C., Bridgeton, N. J.
Lo Pinto, John, New York City.
Lord, John P., Omaha, Neb.
Loughlen, T. B., Olean, N. Y.
Loux, H. R., Philadelphia.
Lower, William E., Cleveland, Ohio
Luce, Thomas W., Portsmouth, N. H.
Lucid, M. M., Cortland, N. Y.
Luther, John W., Palmerton, Pa.
Lydston, G. Frank, Chicago.
Lynch, Charles F., Springfield, Mass.
Lynch, J. M., New York City.
Lyon, Hartwell N., St. Louis, Mo.
MacGowan, Granville, Los Angeles, Cal.
MacKenzie, T. H., Trenton, N. J.
Mackinney, William H., Philadelphia.
McLaren, Archibald, St. Paul, Minn.
MacMillan, J. A., Detroit, Mich.
MacMonagle, Beverly, San Francisco.
Maclay, A. I., Delavan, Ill.
Magee, M. D'Arcy, Washington, D.C.
Magie, W. H., Duluth, Minn.
Maguire, Francis J. W., Detroit, Mich.
Mahon, John B., Pittston, Pa.
Mahoney, Edward J., Holyoke, Mass.
Mahoney, Stephen A., Holyoke, Mass.
Mallett, E. Pierre, Kansas City, Mo.
Maloney, John B., Key West, Fla.
Manasses, Jacob L., Philadelphia.
Mankin, J. W., Thurmond, W. Va.
Mann, Charles H., Bridgeport, Pa.
Mann, James P., Philadelphia.
Marsh, F. L., Mt. Pleasant, Pa.
Marsh, John Henry, Fayetteville, N. C.
Marsh, V. N., Flushing, Ohio.
Marshall, J. C., Atlantic City, N. J.
Marshall, V. A., Moriah, N. Y.
Martin, Collier F., Philadelphia.
Martin, E. Denegre, New Orleans, La.
Martin, Edward, Philadelphia.
Martin, Frank, Baltimore, Md.
Martin, R. S., Stuart, Va.
Martin, William C., Detroit, Mich.
Mason, S. M., Clarksburg, W. Va.
Mason, Will, Jr., Murray, Ky.
Matas, Rudolph, New Orleans, La.
Matheny, A. R., Pittsburg, Pa.
Mattison, Fitch C. E., Pasadena, Cal.
Mattison, James A., Marion, Ind.
Mattox, Ernest L., Terre Haute, Ind.
Maury, J. W. D., New York City.
Mayne, Earl H., Brooklyn, N. Y.
Mayo, C. H., Rochester, Minn.
Mayo, W. J., Rochester, Minn.
McAndrew, P. H., U. S. Army, Manila, P. I.
McAniff, Hugh P., Philadelphia.
McArthur, Lewis L., Chicago.
McCall, H. B., Kansas City, Mo.
McChord, Robert C., Lebanon, Ky.
McClellan, B. R., Xenia, Ohio.
McCuistion, L. P., Paris, Texas.
McDonald, J. W., Fairmont, W. Va.
McGill, Earl P., Wray, Colo.
McGuire, M. F., Montpelier, Vt.
McGuire, Stuart, Richmond, Va.
McGraw, Theodore A., Detroit, Mich.
McHenry, R. F., Heilwood, Pa.
McKee, T. H., Buffalo, N. Y.
McKenna, John A., Lansdowne, Pa.
McKnight, Everett J., Hartford, Conn.
McLean, Angus, Detroit, Mich.
McLoughlin, T. J., Jersey City, N. J.
McMillan, Wm. A., Charleston, W. Va.
McMullen, Charles G., Schenectady, N. Y.
McNaught, F. H., Denver, Colo.
McOscar, Edward J., Ft. Wayne, Ind.
McRae, Floyd W., Atlanta, Ga.
McVety, Albert F., Toledo, Ohio.
McWilliams, C. A., New York City.
Means, W. J., Columbus, Ohio.
Mecray, Paul, Camden, N. J.

Melsheimer, J. A., Hanover, Pa.
Mengel, S. P., Parsons, Pa.
Meyer, Willy, New York City.
Michler, Henry D., Easton, Pa.
Miles, P. G., New Castle, Pa.
Miller, A. L., Dixon, Ill.
Miller, Morris Booth, Philadelphia.
Miller, S. M., Peoria, Ill.
Miller, S. R., Knoxville, Tenn.
Mills, W. P., Missoula, Mont.
Misenheimer, Charles A., Charlotte, N. C.
Mitchell, Augustus J., Newark, N. J.
Mitchell, Charles F., Philadelphia.
Mitchell, James F., Washington, D.C.
Moe, Anton J., Huron Lake, Minn.
Monahan, J. J., Encampment, Wyo.
Moore, James E., Minneapolis, Minn.
Moore, S. B., Alexandra, Va.
Moriarta, D. C., Saratoga, N. Y.
Morris, Robert Tuttle, New York City.
Morrison, Ephraim, Newton, N. J.
Morrison, J. Bennett, Newark, N. J.
Morrissey, Michael J., Unionville, Conn.
Morton, A. W., San Francisco, Cal.
Mosher, Charles B., Johnstown, N.Y.
Muller, George P., Philadelphia.
Munro, John C., Boston, Mass.
Murphy, Fred T., Boston.
Murphy, John B., Chicago, Ill.
Murray, Dwight H., Syracuse, N. Y.
Murray, T. J., Butte, Mont.
Murray, Ransom H., Flint, Mich.
Nancrede, C. B. G., Ann Arbor, Mich.
Nash, George A., Maryville, Mo.
Neale, Richard A., Chicago.
Newman, Samuel E., St. Louis, Mo.
Nichols, Edward H., Boston.
Nicholson, Joseph, Brainerd, Minn.
Nicholson, Joseph L., Camden, N. J.
Nicholson, W. G., Green Bay, Wis.
Nihiser, W. M., Keedyville, Md.
Noome, A. J., Wheeling, W. Va.
Norwood, E. E., Kingston, N. Y.
Nutt, George D., Williamsport, Pa.
Oates, T. K., Martinsburg, W. Va.
O'Brien, Daniel P., New Bedford, Mass.
Ochsner, A. J., Chicago.
O'Dea, Charles A., Erie, Pa.
Ogden, Chester R., Clarksburg, W. Va.
Ogilvy, Charles, New York City.
Ohlman, I. L., Pittsburg, Pa.
Oliver, John C., Cincinnati, Ohio.
O'Neill, Owen, Willimantic, Conn.
O'Neil, Richard F., Boston.
O'Meara, Mark, Kingston, N. Y.
O'Reilly, Charles A., Philadelphia.
O'Reilly, James Archer, St. Louis.
Orr, Walter, Flint, Mich.
Ort, W. A., Springfield, Ohio.
Owens, W. W., Savannah, Ga.
Page, K. B., New York City.
Palmer, John., Jr., Wilmington, Dela.
Palmer, W. L., Albert Lea, Minn.
Palmer, W. R., Johnsonburg, Pa.
Parker, George H., Trenton, N. J.
Parkes, William R., Evanston, Ill.
Parkhill, C. S., Hornell, N. Y.
Parrish, J. C., Vandalia, Mo.
Paschal, Frank, San Antonio, Texas.
Payne, Marshall J., Staunton, Va.
Pease, Clifford A., Burlington, Vt.
Peck, G. S., Youngstown, Ohio.
Peck, Charles H., New York City.
Peck, George Augustus, New Rochelle, N. Y.
Pedersen, Victor C. New York City.
Penning, O. P., Baltimore, Md.
Pennington, J. R., Chicago, Ill.
Percy, J. F., Galesburg, Ill.
Perry, S. W., New Castle, Pa.
Peterkin, G. S., Seattle, Wash.
Peterson, Edward W., New York City.
Pettit, Joseph A., Portland, Ore.
Pfeifer, J. P., Chicago.
Pierce, A. M., West Elizabeth, Pa.
Pierpont, J. Harris, Pensacola, Fla.
Plimpton, Warren O., New York City.
Plummer, Harry E., New York City.
Pomerene, H. P., Canton, Ohio.
Popp, J. M., New Castle, Pa.
Pope, M. Y., Monticello, Ark.
Porter, Miles F., Ft. Wayne, Ind.
Potter, G. E., Detroit, Mich.
Potter, T. E., St. Joseph, Mo.
Powers, Charles A., Denver, Colo.
Presbrey, Silas Dean, Taunton, Mass.
Prevost, C. W., Pittston, Pa.
Quinby, William C., Boston.
Quinn, Stephen T., Elizabeth, N. J.
Ragan, O. H. W., Hagerstown, Md.
Rambo, C. M., Zanesville, Ohio.
Ramsay, William E., Perth Amboy, N. J.
Rand, Howard F., St. Helena, Cal.
Randall, H. E., Flint, Mich.
Rasely, E. R., Uniontown, Pa.
Rassieur, Louis, St. Louis, Mo.
Reddan, M. W., Trenton, N. J.
Redfield, Charles I., Middletown, N. Y.
Reed, Robert J., Wheeling, W. Va.
Reeder, J. Dawson, Baltimore, Md.
Reid, William B., Rome, N. Y.
Reilly, John P., Elizabeth, N. J.
Reinoehl, D. V., Erie, Pa.
Rendleman, James W., East St. Louis, Ill.
Reoch, William S., Phenix, R. I.
Richards, C. A., Rhinelander, Wis.
Richards, C. H., Dunkirk, N. Y.
Richardson, W. E., Slayton, Minn.
Richman, Edward M., Newark, N. J.
Rietz, Paul C., Evansville, Ind.
Robbins, Frederick W., Detroit, Mich.
Roberts, John B., Philadelphia.
Robertson, William M., Warren, Pa.
Robinovitch, Louise G., New York City.
Robinson, Fred W., Sturgis, Mich.
Robinson, Samuel, Boston.
Rockey, A. P., Assumption, Ill.
Rochford, W. E., Minneapolis, Minn.
Rodman, William L., Philadelphia.
Roe, William J., Philadelphia.
Rogers, Mack, Birmingham, Ala.
Roos, Elias G., Scranton, Pa.
Root, Emerson F., Salt Lake, Utah.
Rooth, H. C., Buffalo, N. Y.
Ross, Clyde F., West Point, Pa.
Ross, David, Indianapolis, Ind.
Roth, Henry, New York City.
Roxby, John Byers, Philadelphia.
Royster, H. A., Raleigh, N. C.
Rugh, J. Torrance, Philadelphia.
Russ, Raymond, San Francisco
Rutledge, A. T., Blairsville, Pa.
Ryall, George W., Wooster, Ohio.
Ryan, Lawrence, Chicago.
Sadlier, J. E., Poughkeepsie, N. Y.
Sagerson, John L., Johnstown, Pa.
Sala, E. M., Rock Island, Ill.
Sarles, Wilbur T., Sparta, Wis.
Sawyer, Alfred D., Fort Fairfield, Me.
Saxe, G. A. De Santos, New York City.
Sayle, R. G., Milwaukee, Wis.
Sayre, Reginald H., New York City.
Scattergood, Joseph, West Chester, Pa.
Schachner, August, Louisville, Ky.
Schaubel, Charles W., Philadelphia.
Schapira, S. William, New York City.
Scheel, J. Thompson, Philadelphia.
Schellenger, E. A. Y., Camden, N. J.
Schlueter, Robert E., St. Louis, Mo.
Schoening, Gustav A., Trenton, N. J.
Schoolfield, G. C., Charleston, W. Va.
Scott, A. C., Temple, Texas.
Scudder, Charles L., Boston.
Senn, E. J., Chicago.
Senseman, Theodore, Atlantic City, N. J.
Sexton, Roy, Streator, Ill.
Shaffer, J. W., Youngstown, Ohio.
Shaugle, Milton A., Elizabeth, N. J.
Sharp, Harry C., Indianapolis, Ind.
Shaw, Joseph B., Trenton, N. J.
Sheehan, William J., New Haven, Conn.
Shepherd, Irvin J., Wilmington, Del.
Sherbondy, J. A., Youngstown, Ohio.
Sherk, Henry Howard, Pasadena, Cal.
Sherrer, F. A., Easton, Pa.
Shifferstein, E. E., Tamaqua, Pa.
Shillito, G. M., Pittsburg, Pa.
Shope, E. L., Harrisburg, Pa.
Shumaker, D W., Canal Dover, Ohio.
Siggins, J. B., Oil City, Pa.
Silbaugh, John J., Lancaster, Ohio.
Silver, Harry, Hamilton, Ohio.
Silver, Henry Mann, New York City.
Simpson, T. P., Beaver Falls, Pa.
Singley, John D., Pittsburg, Pa.
Skinner, William W., Geneva, N. Y.
Smith, Andrew C., Portland, Ore.
Smith, Charles N., Toledo, Ohio.
Smith, E. R., Los Angeles, Cal.
Smith, E. O., Cincinnati, Ohio.
Smith, Franklin Buchanan, Frederick City, Md.
Smith, Harvey F., Harrisburg, Pa.
Smith, Joseph F., Wausau, Wis.
Smith, Oliver C., Hartford, Conn.
Smith, B. R., Jeannette, Pa.
Smith, William T., Hanover, N. H.
Smyth, John, New Orleans, La.
Snyder, Frederick, Rosendale, N. Y.
Sommer, George N. J., Trenton, N. J.
Spencer, G. W., Philadelphia.
Speese, John, Philadelphia.
Spicher, C. C., Lovejoy, Pa.
Spragg, S. L. S., Wheeling, W. Va.
Springer, Harold L., Wilmington, Del.
Staller, Max, Philadelphia.
Stanton, E. MacD., Schenectady, N. Y.
Steiner, Edwin, Newark, N. J.
Stern, Alexander A., Kingston, N. Y.
Stewart, J. Clark, Minneapolis, Minn.
Stickney, Henry Ladd, Manchester, N. H.
Still, D. V., Johnstown, N. Y.
Stillman, Stanley, San Francisco.
Stockwell, William M., Suffield, Conn.
Stokes, A. C., Omaha, Neb.
Strader, H. W., Sacramento, Cal.
Stratton, Robert T., Oakland, Cal.
Stremmel, S. C., Macomb, Ill.
Strickler, Abraham H., Waynesboro, Pa.
Strong, S. Meredith, Brooklyn, N. Y.
Sullivan, Daniel F., Hartford, Conn.
Sullivan, Thomas J., Chicago.
Summers, A. T., Mattoon, Ill.
Summers, John E., Omaha, Neb.
Sutton, H. T., Zanesville, Ohio.
Sutphen, Carl E., Newark, N. J.
Sutliff, Van Duyne A., Philadelphia.
Swenson, Carl G., Chicago, Ill.
Swetnam, C. R. K., Poland, Ariz.
Swope, L. W., Pittsburg, Pa.
Syms, Parker, New York City.
Taggart, T. D., Atlantic City, N. J.
Tait, F. Dudley, San Francisco, Cal.
Taylor, Fred W., Provo City, Utah.
Taylor, William Henry, Irwin, Pa.
Teagarden, W. D., Washington, Pa.
Teller, William H., Philadelphia.
Terrell, E. H., Richmond, Va.
Terry, Herbert, Providence, R. I.
Terry, Wallace I., San Francisco, Cal.
Thomas, B. A., Philadelphia.
Thompson, Frederick H., Fitchburg, Mass.
Thompson, Benj., Tama, Iowa.
Thompson, J. Ford, Washington, D.C.
Thomson, Charles E., Scranton, Pa.
Titus, W. S., Mora, Minn.
Townsend, Wisner R., New York City.
Truesdale, Philemon Edwards, Fall River, Mass.
Tucker, Henry, Philadelphia.
Tuckerman, J. E., Cleveland, Ohio.
Tull, G. A., Clay Center, Kan.
Tupper, W. L., Bay City, Mich.
Tuttle, James P., New York City.
Tweedy, G. J., Winona, Minn.
Umstad, J. R., Norristown, Pa.
Vander Veer, Albert, Albany, N. Y.
Van Meter, S. D., Denver, Colo.
Ver Nooy, C. D., Cortland, N. Y.
Viehe, Carl G. Evansville, Ind.
Van Vrauken, Gilbert, Passaic, N. J.
Waechter, Adolph, New York City.
Wagoner, G. W., Johnstown, Pa.
Wainwright, J. M., Scranton, Pa.
White, Frederick C., Cleveland, Ohio.
Wakefield, S. R., West Salem, Wis.
Walker, Alonzo B., Canton, Ohio.
Walker, Frank B., Detroit, Mich.
Walker, Henry O., Detroit, Mich.
Walker, John B., New York City.
Walscheid, Arthur J., Union Hill, N. J.
Walsh, F. A., Erie, Pa.
Warbasse, J. P., New York City.
Ward, Wm. J., Newark, N. J.
Ware, Martin W., New York City.
Wareham, Edward A., Hagerstown, Md.
Waring, T. P., Savannah, Ga.
Warren, J. N., Sioux City, Iowa.
Waterworth, S. J., Clearfield, Pa.
Watson, William N., Philadelphia.
Watts, Stephen H., University, Va.
Weir, Robert S., New York City.
Weis, Edmund W., Ottawa, Ill.
Weiser, Walter R., Springfield, Mass.
Wellington, J. R., Washington, D. C.
Wells, Ernest A., Hartford, Conn.
Wells, Joseph M., Trenton, N. J.
Welty, E. M., Philadelphia.
Wenzel, Mary, Philadelphia.
West, W. K., Painesdale, Mich.
Wharton, Henry R., Philadelphia.
Whiting, Albert D., Philadelphia, Pa.
Whitacre, Horace J., Cincinnati, O.
White, Charles S., Washington, D. C.
Whiteside, George S., Portland, Ore.
Whitley, Ralph L., Osage, Iowa.
Wieder, Henry S., Philadelphia.
Wiggins, J. L., E. St. Louis, Ill.
Wiggins, S. L., McKeesport, Pa.
Wight, Otis B., Portland, Ore.
Wilbur, Hubert G., Fall River, Mass.
Willard, De Forest, Philadelphia, Pa.
Williams, T. M., Stanford University, California.
Willis, James C., Shreveport, La.
Wilson, M. J., Warsaw, N. Y.
Wilson Charles W., Vineland, N. J.
Wilson, H. Augustus, Philadelphia.
Winslow, Randolph, Baltimore, Md.
Wise, B. T., Jr., Plains, Ga.
Wishard, William N., Indianapolis, Ind.
Witherspoon, James, Pittsburg, Pa.
Wolfe, S. M., Wilkes-Barre, Pa.
Wood, Alfred C., Philadelphia, Pa.
Wood, F. C., Westfield, Wis.
Woolford, J. S. B., Chattanooga, Tenn.
Woods, Edmund F., Janesville, Wis.
Woolsey, R. A., St. Louis, Mo.
Wray, William S., Philadelphia, Pa.
Wright, A. L., Carroll, Iowa.
Wright, T., Sayre, Pa.
Wunderlich, Frederick W., Brooklyn, N. Y.
Wyeth, John A., New York City.
Yarbrough, L. A., Covington, Tenn.
Yates, J. L., Milwaukee, Wis.
Yocum, M. G., Mentone, Ind.
Young, Hugh H., Baltimore, Md.
Young, James K., Philadelphia.
Zapffe, Fred C., Chicago.
Zobel, Alfred J., San Francisco, Cal.

Ophthalmology

Adams, C. F., Trenton, N. J.
Allen, L. P., Oshkosh, Wis.
Alling, Arthur N., New Haven, Conn.
Andrews, Herman D., Buffalo, N. Y.
Arnold, Francis J., Burlington, Vt.
Aronson, Moses, New York City.
Atherton, Andrew L., Atlantic City, N. J.
Ayer, Thomas H., Westboro, Mass.
Babcock, Lewis C., Bethlehem, Pa.
Bailey, Fred D., Brooklyn, N. Y.
Baker, A. R., Cleveland, Ohio.
Ball, M. V., Warren, Pa.
Barney, B. A., Hornell, N. Y.
Bastian, Charles B., Williamsport, Pa.
Bedell, Arthur I., Albany, N. Y.
Beetham, A. C., Bellaire, Ohio.
Berens, Bernard, Philadelphia.
Berry, John C., Worcester, Mass.
Black, J. C., Milford, Mich.
Black, Melville, Denver, Colo.
Black, Nelson M., Milwaukee, Wis.
Blair, Alexander C., Pittsburg, Pa.
Blair, William W., Pittsburg, Pa.
Bordley, James, Jr., Baltimore, Md.
Bossidy, John C., Boston.
Bowen, Josiah S., Mt. Washington, Md.
Bowers, John W., Portland, Me.
Boyle, James C., Butler, Pa.
Brantley, H., Spring Hope, N. C.
Brawley, R. V., Salisbury, N. C.
Briggs, H. H., Asheville, N. C.
Brobst, Charles H., Peoria, Ill.
Brophy, John A., Philadelphia.
Broughton, Wm. R., New York City.
Brown, E. V. L., Chicago.
Brown, Samuel Horton, Philadelphia.
Bruner, Wm. Evans, Cleveland, Ohio.
Bruns, H. Dickson, New Orleans, La.
Brunson, Randolph, Hot Springs, Ark.
Buchanan, Mary, Philadelphia.
Buckman, Ralph W., Bryant Pond, Me.
Bull, Charles Stedman, New York
Bullett, James B., University, Miss.
Bulson, Albert E., Jr., Ft. Wayne, Ind.
Burnham, R. D., Piqua, Ohio.
Burroughs, Geo. M., Danielson, Conn.
Butler, W. K., Washington, D. C.
Butt, Miriam M., Philadelphia.
Buvinger, Charles W., East Orange, N. J.
Callan, Peter A., New York City.
Cannaday, A. A., Roanoke, Va.
Carrier, Frederic, Philadelphia.
Carroll, James J., Baltimore, Md.
Cary, E. H., Dallas, Tex.
Case, George M., Elmira, N. Y.
Chambers, T. R., Jersey City, N. J.
Chattin, J. Franklin, Trenton, N. J.
Clapp, C. A., Baltimore, Md.
Churchman, V. T., Charleston, W. Va.
Clark, C. F., Columbus, Ohio.
Clifford, Edward M., Greensburg, Pa.
Cocklin, Charles C., Harrisburg, Pa.
Conklin, Herbert R., Tecumseh, Mich.
Connor, Leartus, Detroit, Mich.
Connor, Ray, Detroit, Mich.
Coover, D. H., Denver, Colo.
Corser, John B., Scranton, Pa.
Corson, G. R. S., Pottsville, Pa.
Craig, William G., Springfield, Mass.
Cramer, Alfred, Jr., Camden, N. J.
Crane, C. A., Canton, Ohio.
Craythorn, C. J., Trenton, N. J.
Creighton, William James, Philadelphia.
Crockett, R. L., Oneida, N. Y.
Croskey, John Welsh, Philadelphia.
Cutler, Colman W., New York City.
Dana, L. W., Kane, Pa.
Davidson, John P., Richmond, Va.
Davis, A. E., New York City.
Dean, Lee Wallace, Iowa City, Iowa.

Deems, O. M., Springfield, Mass.
Deely, George E., Brooklyn, N. Y.
Derby, George S., Boston.
Dixon, George S., New York City.
Donovan, John A., Butte, Mont.
Dowling, Oscar, Shreveport, La.
Duane, Alexander, New York City.
Dunlop, Harley M., Battle Creek, Mich.
Dwyer, William M., Amsterdam, N. Y.
Ellegood, J. A., Wilmington, Del.
Ellett, Edward C., Memphis, Tenn.
Ellis, H. Bert, Los Angeles, Cal.
Embery, Frank, Philadelphia.
Emerson, Linn, Orange, N. J.
Feingold, Marcus, New Orleans, La.
Fleming, George A., Baltimore, Md.
Forst, John R., Philadelphia.
Fox, G. T., Bath, Pa.
Fox, L. Webster, Philadelphia.
Francis, Lee M., Buffalo, N. Y.
Frank, Mortimer, Chicago.
Frankhauser, Fremont W., Reading, Pa.
Franklin, Clarence Payne, Philadelphia.
Freeman, Edward D., Osgood, Ind.
Frey, *C.* L., Scranton, Pa.
Friebis, George, Philadelphia.
Fridenberg, Percy, New York City.
Frohwein, Ida L. Haverstick-, St. Elizabeth, N. J.
Gates, Aden Clarence, Kingston, N. Y.
Gamble, William E., *Chicago.*
Getty, Mary, Philadelphia.
Gibson, Robert Dixon, Youngstown, *Ohio.*
Gifford, H., *Omaha*, Neb.
Gillman, Robert W., Detroit, Mich.
Goldberg, Harold G., Philadelphia.
Green, John, Jr., St. Louis, Mo.
Greene, D. W., Dayton, Ohio.
Griffith, Monte, Washington, D. C.
Grove, Benjamin H., Buffalo, N. Y.
Hammond, Charles B., Nashua, N. H.
Hancock, James Cole, Brooklyn, N. Y.
Hansell, Howard F., Philadelphia.
Harlan, Herbert, Baltimore, Md.
Harrison, W. G., Birmingham, Ala.
Haskin, H. P., Williamsport, Pa.
Herbert, J. Frederick, Philadelphia.
Hill, G. Alvin, Philadelphia.
Hogue, Delos W., Springfield, Ohio.
Holden, Ward A., New York City.
Holloway, T. B., Philadelphia.
Holt, E. E., Portland, Me.
Howe, Lucien, Buffalo, N. Y.
Hubbell, Alvin A., Buffalo, N. Y.
Hulen, Vard H., San Francisco.
Hussey, Edw. J., Holyoke, Mass.
Ingalls, James W., Brooklyn, N. Y.
Jackson, Edward, Denver, Colo.
Jacobson, F. C., Newark, N. J.
Jarvis, C. C., Clarksburg, W. Va.
Jean, G. William, Danville, Ky.
Jervey, J. W., Greenville, S. C.
Jones, Charles J., Philadelphia.
Jones, Emmett L., Cumberland, Md.
Jones, Edward W., Layton, N. J.
Jones, Ralph, R., Toms River, N. J.
Kalish, Richard, New York City.
Kaucher, Clifford L., Reading, Pa.
Keely, Robert N., Browns Mills, N. J.
Keiper, George F., Lafayette, Ind.
Kelly, M. B., Wheeling, W. Va.
Kennon, B. R., Norfolk, Va.
King, George Lincoln, Alliance, Ohio.
Kipp, Charles J., Newark, N. J.
Kirkendall, John S., Ithaca, N. Y.
Klinedinst, J. Ferd., York, Pa.
Knapp, Arnold, New York City.
Krauss, Frederick, Philadelphia.
Kress, Palmer J., Allentown, Pa.
Kunkle, Wesley F., Williamsport, Pa.
Lacy, J. W., Lisbon, Md.
Lambert, Walter Eyre, New York City.
Lane, Laura A., Rochester, Minn.
Langford, Theron S., Jackson, Mich.
Leach, W. J., New Albany, Ind.
Ledbetter, S. L., Birmingham, Ala.
Leech, James W., Providence, R. I.
Leonard, P. I., St. Joseph, Mo.
Leopold, Isaac, Philadelphia.
Lewis, F. Park, Buffalo, N. Y.
Libby, Arthur A., Los Angeles, Cal.
Little, Albin H., Portland, Maine.
Lord, Morris S., Schenectady, N. Y.
Louchery, D. C., Clarksburg, W. Va.
Love, J. King, Easton, Pa.
Love, Louis F., Philadelphia.
Maine, C. L., Helvetia, Pa.
Maisch, Aug. C., Hagerstown, Md.
Marple, Wilbur B., New York City.
Marlow, Frank Wm., Syracuse, N. Y.
Marsden, C. S., Grand Forks, N. Dak.
Marsden, Henry I., Somerset, Pa.
Marsh, W. A., Mt. Pleasant, Pa.
Martin, E. E., Millville, Cal.
Martin, H. H., Savannah, Ga.
Maser, G. W., Parsons, Kan.
May, Charles H., New York City.
May, James W., Kansas City, Kan.
McCabe, Edw. M., New Haven, Conn.
McClenathan, J. C., Connellsville, Pa.
McConachie, Alex. D., Baltimore, Md.
McDavitt, Thos., St. Paul, Minn.
McIntire, Charles, Easton, Pa.
McKinley, Archie T., Philadelphia.
McNaul, W. J., Philadelphia.
Meanor, Wm. C., Beaver, Pa.
Mevay, James C., Atlantic City, N. J.
Miles, H. S., Bridgeport, Conn.
Miller, Chas. E., Muncie, Ind.
Miller, M. E., Washington, D. C.
Miller, R. F., St. Louis, Mo.
Millette, John W., Dayton, Ohio.
Milnor, Robert H., Warrensville, Pa.
Moore, C. C., Philadelphia.
Moore, G. H., Schuylkill Haven, Pa.
Moore, J. H., Bridgeton, N. J.
Morrison, Frank A., Indianapolis, Ind.
Muncaster, S. B., Washington, D. C.
Murray, G. D., Scranton, Pa.
Nutter, C. F., Nashua, N. H.
O'Brien, John J., Schenectady, N. Y.
Ohly, John H., Brooklyn, N. Y.
O'Malley, Austin, Philadelphia.
Pancoast, J. W., Philadelphia.
Park, J. Walter, Harrisburg, Pa.
Parker, Frank Judson, New York City.
Parker, Walter R., Detroit, Mich.
Payne, S. M., New York City.
Pearson, Wm. W., Des Moines, Iowa.
Pennell, W. J., Auburn, Maine.
Peter, Luther C., Philadelphia.
Peterman, H. E., Baltimore, Md.
Pitts, Barton, St. Joseph, Mo.
Pitts, E. P., Atchison, Kan.
Polkinhorn, H. A., Washington, D. C.
Pollard, W. M., Atlantic City, N. J.
Pontius, Paul J., Philadelphia.
Pooley, T. R., New York *City.*
Porter, Edwards H., Tiffin, Ohio.
Posey, Wm. Campbell, Philadelphia.
Price, Geo. H., Nashville, Tenn.
Price, Henry R., Brooklyn, N. Y.
Pusey, Brown, Chicago.
Pyle, Walter L., Philadelphia.
Radcliffe, McCluney, Philadelphia.
Reber, Wendell, *Philadelphia.*
Rebuck, Chas. S., Harrisburg, Pa.
Reynolds, W. G., *Brooklyn*, N. Y.
Ring, G. Oram, Philadelphia.
Risley, J. *Norman*, *Philadelphia.*
Risley, Samuel D., Philadelphia.
Roberts, W. H., Pasadena, Cal.
Robinson, J. M., Duluth, Minn.
Rodman, C. S., Waterbury, Conn.
Rogers, T. A., Plattsburgh, N. Y.
Rogers, T. T., *Providence*, R. I.
Rothrock, H. A., West Chester, Pa.
Russell, E. *Reid*, *Charlotte*, N. C.
Sartain, Paul J., Philadelphia.
Sautter, Albert C., Philadelphia.
Savage, *Giles* C., *Nashville*, Tenn.
Saylor, E. S., Philadelphia.
Scales, J. W., *Pine Bluff*, Ark.
Schaefer, Otto, Baltimore, Md.
Schlichter, Chas. H., Elizabeth, N. J.
Schlindwein, G. Wm., Erie, Pa.
Schneideman, Florence Mayo, Philadelphia.
Schneideman, T. B., *Philadelphia.*
Schweinitz, G. E. de, Philadelphia.
Seaman. Gilbert E., Milwaukee, Wis.
Sears, Wm. H., Huntingdon, Pa.
Shannon, John R., New York City.
Sherman, E. S., Newark, N. J.
Shoemaker, W. A., St. Louis, Mo.
Shoemaker, Wm. T., Philadelphia.
Shope, *Samuel Z.*, Harrisburg, Pa.
Shore, F. E. V., Des Moines, Iowa.
Shumway, Edward A., Philadelphia.
Smith, Dorland, Bridgeport, Conn.
Smith, E. Terry, Hartford, Conn.
Smyth, P. Somers, Boston.
Snyder, Walter H., Toledo, Ohio.
Standish, Myles, Boston.
Stevens, Cyrus Lee, Athens, Pa.
Stevenson, David W., Richmond, Ind.
Stevenson, *Mark D.*, Akron, Ohio.
Stieren, Edward, Pittsburg, Pa.
Stiles, Chas. M., Philadelphia.
Strain, Earle, Great Falls, Mont.
Swan, Tyrus E., Easton, Pa.
Sweet, William M., Philadelphia.
Taylor, Lewis H., Wilkes-Barre, Pa.
Taylor, T. M., New York City.
Tenney, John A., Boston.
Theobald, Samuel, Baltimore, Md.
Thorington, James, Philadelphia.
Thorne, James P., Janesville, Wis.
Todd, Frank C., Minneapolis, Minn.
Turner, John B., Philadelphia.
Tybout, R. Raymond, Wilmington, Del.
Tyson, Henry H., New York City.
Upham, Helen F., Asbury Park, N. J.
Valk, Francis, New York City.
Van Horn, Alfred F., Plainfield, N. J.
Verhoeff, F. H., Boston.
Vinton, Charles H., Wernersville, Pa.
Voorhees, Sherman, Elmira, N. Y.
Walter, Will, Chicago.
Weisser, Edward A., Pittsburg, Pa.
Wells, David W., Boston.
Wescott, C. D., Chicago.
White, Joseph A., Richmond, Va.
White, Amy E., Chester, Pa.
Whitney, E. M., New Bedford, Mass.
Wible, E. E., Homestead, Pa.
Wiener, Meyer, St. Louis, Mo.
Wilder, Wm. H., Chicago.
Wilkinson, Oscar, Washington, D. C.
Willetts, Joseph E., Pittsburg, Pa.
Williams, Charles H., Boston.
Willis, F. D., Newport News, Va.
Wood, Casey A., Chicago.
Woodruff, Thomas A., Chicago.
Woods, Hiram, Baltimore, Md.
Wurdemann, H. V., Seattle, Wash.
Wylie, E. R., Boston.
Zentmayer, William, Philadelphia.
Ziegler, S. Lewis, Philadelphia.

Laryngology and Otology

Abraham, Joseph H., New York City.
Adams, John L., New York City.
Allport, Frank, Chicago.
Alway, R. D., Aberdeen, S. Dak.
Anderson, Willis S., Detroit, Mich.
Andrews, Lemar M., Warsaw, N. Y.
Babbitt, James A., Philadelphia.
Baldwin, Kate W., Philadelphia.
Barber, Vincent, Brooklyn, N. Y.
Barnhill, John F., Indianapolis, Ind.
Biedert, Charles C., Philadelphia.
Borden, Charles R. C., Boston.
Brown, Clayton M., Buffalo, N. Y.
Bryant, W. Sohier, New York City.
Burns, Louis J., Philadelphia.
Burton, Frank Albert, Denver, Colo.
Butler, Margaret F., Philadelphia.
Butler, Ralph, Philadelphia.
Byrne, Thomas J., Philadelphia.
Cadwell, C. T., Poughkeepsie, N. Y.
Carter, William W., New York City.
Casselberry, W. E., Chicago.
Charlesworth, I. E., Bridgeton, N. J.
Cline, L. C., Indianapolis, Ind.
Coakley, C. G., New York City.
Coates, George M., Philadelphia.
Cohen, *Lee*, Baltimore, Md.
Colwell, N. P., Chicago.
Corwin, Theo. W., Newark, N. J.
Cott, Geo. F., Buffalo, N. Y.
Craig, Alex. R., Philadelphia.
Crouch, J. Frank, Baltimore, Md.
Davis, Geo. E., New York City.
Davis, J. Leslie, Philadelphia.
Day, E. W., Pittsburg, Pa.
Delavan, D. Bryson, New York City.
Denison, Charles E., New York City.
De Vilbiss, Allen, Toledo, Ohio.
Dickinson, B. M., Pittsburg, Pa.
Doriss, H. Stokes, Atlantic City, N. J.
Duel, Arthur B., New York City.
Dufour, C. R., Washington, D. C.
Dunning, Guy M., Lansing, Mich.
Dye, Hobart S., Washington, D. C.
Eaton, Albert M., Philadelphia.
Fairbairn, John F., Buffalo, N. Y.
Felt, Carle Lee, Philadelphia.
Fischelis, Philipp, Philadelphia.
Fletcher, J. R., Chicago.
Forsyth, E. A., *Buffalo.*
Foster, J. M., Denver, Colo.
Fowler, E. P., New York City.
Fretz, O. H., Quakertown, Pa.
Garraghan, Edward F., Chicago.
Geyer, H. R., Zanesville, Ohio.
Gibb, Joseph S., Philadelphia.
Gilbert, Frank Y., Portland, Maine.
Gile, Ben C., Philadelphia.
Gleason, E. B., Philadelphia.
Glogau, Otto, New York City.
Good, R. H., Chicago.
Griffin, Walter A., Sharon, Mass.
Gustlaw, Israel, New York City.
Guntzer, J. H., New York City.
Hartman, J. H., Baltimore, Md.
Hartz, Henry J., Detroit, Mich.
Hirst, Levi B., Camden, N. J.
Hitschler, William A., Philadelphia, Pa.
Holinger, J., Chicago.
Hornbeck, J. L., Catasauqua, Pa.
Hutton, F. C., Philadelphia.
Iglauer, Samuel, Cincinnati, Ohio.
Ingersoll, J. M., Cleveland, Ohio.
Jackson, Chevalier, Pittsburg, Pa.
Johnston, R. H., Baltimore, Md.
Jones, W. S., Camden, N. J.
Kelchner, W. I., Camden, N. J.
Keller, L. H., Hagerstown, Md.
Kepke, *John*, *Brooklyn*, N. Y.
Kirkpatrick, A. B., Philadelphia.
Kittredge, Frank E., Nashua, N. H.
Klopp, E. L., Philadelphia.
Kyle, John J., Indianapolis, Ind.
Layman, D. W., Indianapolis, Ind.
Le Brun, Louis, Albany, N. Y.
Le Gro, L. B., Haverhill, Mass.
Levy, Robert, Denver, Colo.
Lewis, E. R., Dubuque, Iowa.
Loeb, Hanau W., St. Louis, Mo.
Logan, James E., Kansas City, Mo.
Ludlow, David H., Easton, Pa.
Lutz, Stephen H., Brooklyn, N. Y.
MacCracken, George Y., Philadelphia.
MacGregor, *Charles*, *Dayton*, *Ohio.*
MacLachlan, A. A., Pittsburg, Pa.
Makuen, G. Hudson, Philadelphia.
Malcolm, P. E. D., New York City.
Marshall, G. M., Philadelphia.
Martindale, J. H., Los Angeles, Cal.
Masland, H. C., Philadelphia.
Mason, W. M., Atlantic City, N. J.
Mayer, Emil, New York *City.*
McClelland, L. A., Brooklyn, N. Y.
McDonald, D. J., *New York City.*
McKimmie, O. A. M., Washington, D. C.
Mercer, Richard E., Detroit, Mich.
Michaelis, Alfred, New York *City.*
Miller, Albert H., Providence, R. I.
Miller, Clifton M., Richmond, Va.
Miner, Stanley G., Detroit, Mich.
Mitchell, G. W., Baltimore, Md.
Mortimer, W. Golden, New York City.
Murdock, F. W., Brockton, Mass.
Murray, W. R., Minneapolis, Minn.
Musson, Emma E., *Philadelphia.*
Newhart, Horace, Minneapolis, Minn.
Packard, F. R., Philadelphia.
Palmer, E. M., Wichita, Kan.
Parish, Benjamin D., Philadelphia.
Parrish, Henry, Philadelphia.
Pfingst, Adolph O., Louisville, Ky.
Pierce, *Norval H.*, *Chicago.*
Pohl, H. C., Nazareth, Pa.
Potts, Barton H., Philadelphia.
Procter, Percy C., Boston.
Pyfer, Howard F., Norristown, Pa.
Randall, William F., *Dushore*, Pa.
Rearden, Timothy J., Boston.
Reddie, Jacobina S., Philadelphia.
Reik, Henry O., Baltimore, Md.
Reik, J. N., Baltimore, Md.
Reynolds, J. F., *Mt. Sterling*, Ky.
Richards, George L., Fall River, Mass.
Robertson, Charles M., Chicago.
Roe, John O., Rochester, N. Y.
Romine, G. L., Lambertville, N. J.
Rosenheim, Sylvan, Baltimore, Md.
Rowand, A. H. C., Philadelphia.
Roy, Dunbar, Atlanta, Ga.
Rupert, Mary P. S., Philadelphia.
Sandels, C. C., Pittsburg, Pa.
Sanger, F. D., Baltimore, Md.
Sauer, William E., St. Louis, Mo.
Scarlett, Rufus B., Philadelphia.
Schaeffer, George C., Columbus, Ohio.
Scholz, Roy Philip, St. Louis, Mo.
Seifert, F. Robert, Philadelphia.
Seiss, Ralph W., Philadelphia.
Shallcross, W. G., Pittsburg, Pa.
Shambaugh, G. E., Chicago.
Sheedy, Bryan D., New York City.
Shipman, Elliott W., New York City.
Shirk, G. W., Cornwall-on-Hudson, N. Y.
Shurly, Burt R., Detroit, Mich.
Shurly, Ernest L., Detroit, Mich.
Simcox, Lawrence, Philadelphia.
Skillern, Ross Hall, *Philadelphia.*
Sluder, Greenfield, St. Louis, Mo.
Smith, S. *MacCuen*, Philadelphia.
Smyth, Herbert E., Bridgeport, Conn.
Solenberger, Amos R., *Colorado* Springs, Colo.
Somers, Lewis S., *Philadelphia.*
Stapler, Maury M., Macon, Ga.
Stauffer, Nathan P., Philadelphia.
Steel, G. E., *New York City.*
Stimson, G. W., *Atlantic City*, N. J.
Stout, George C., Philadelphia.
Stout, P. Samuel, *Philadelphia.*
Strouse, Frederic M., Philadelphia.
Stubbs, F. Gurney, Chicago.
Stucky, J. A., Lexington, Ky.
Sullivan, John T., *Boston.*
Sutton, Howard A., Philadelphia.
Taylor, Philip, Richmond, Va.
Thigpen, F. M., Montgomery, Ala.
Thomson, John J., New York City.
Thrasher, A. B., Cincinnati, Ohio.
Tomlin, W. S., Indianapolis, Ind.
Toms, S. W. S., *Nyack*, N. Y.
Turnbull, Thomas, Jr., Allegheny, Pa.
Vansant, E. L., Philadelphia.
Ward, *Nathan* G., Philadelphia.
Warlow, Margaret A., Philadelphia.
Warren, Wadsworth, Detroit, Mich.
Weintraub, S. Louise, Philadelphia.
Wells, Walter A., *Washington*, D. C.
Welty, Cullen F., San Francisco.
Wiedner, *Calvin*, Manchester, Conn.
Wiener, Alfred, New York City.
Wilson, Norton L., Elizabeth, N. J.
Wilson, Samuel M., Philadelphia.
Winslow, John R., Baltimore, Md.
Woollen, G. V., Indianapolis, Ind.
Worthington, T. C., Baltimore, Md.
Yankauer, Grace Greenwood Prior, New York City.
Yankauer, Sidney, *New York City.*

Nervous and Mental Diseases

Arlitz, William J., Hoboken, N. J.
Ayres, Samuel, Pittsburg, Pa.
Bailey, Pearce, New York City.
Beebe, Brooks F., Cincinnati, Ohio.
Benton, G. H., Chester, W. Va.
Bishop, T. W., Pasadena, Cal.
Bond, G. F. M., Yonkers, N. Y.
Booth, David S., St. Louis, Mo.
Boyer, H. P., Philadelphia.
Brush, A. C., Brooklyn, N. Y.
Buckley, Albert C., Philadelphia.
Burley, Benjamin T., Worcester, Mass.
Burr, C. B., Flint, Mich.
Burr, Charles W., Philadelphia.
Burrow, N. Trigant, Baltimore, Md.
Camp, Carl D., Ann Arbor, Mich.
Carpenter, S. A., Phoenixville, Pa.
Chase, R. H., Philadelphia.
Clark, L. Pierce, New York City.
Colt, Paul D., Trenton, N. J.
Congdon, Charles E., Buffalo, N. Y.
Cook, R. Harvey, Oxford, Ohio.
Cotton, Henry A., Trenton, N. J.
Craig, J. M., Lakewood, N. J.
Crothers, T. D., Hartford, Conn.
Dana, Charles L., New York City.
Darling, U. G., Chicago.
Davis, Asa B., New York City.
Davis, W. P., Jr., Atlantic City, N. J.
Dercum, F. X., Philadelphia.
Diller, Theodore, Pittsburg, Pa.
Drewry, W. F., Petersburg, Va.
Dunham, S. A., Buffalo, N. Y.
Dunton, W. R., Jr., Govans, Md.
Eshner, A. A., Philadelphia.
Felty, John C., Trenton, N. J.
Fisher, Edward D., New York City.
Fisher, W. E., Middletown, Conn.
Fitzgerald, C. P., Worcester, Mass.
Foley, M. F., Hoboken, N. J.
Free, G. B. M., Danville, Pa.
Gaver, Earl E., Columbus, Ohio.
Goddard, C. C., Leavenworth, Kan.
Gordon, Alfred, Philadelphia.
Gorton, Eliot, Summit, N. J.
Granger, Frank B., Boston.
Grinker, Julius, Chicago.
Gundry, A. T., Catonsville, Md.
Gundry, L. H., Relay, Md.
Haines, J. C., Vincentown, N. J.
Hamilton, A. S., Minneapolis, Minn.
Harding, G. T., Jr., Columbus, Ohio.
Harris, F. R., Henderson, N. C.
Hancker, W. H., Farnhurst, Del.
Hecht, D'Orsay, Chicago.
Hersman, C. C., Pittsburg, Pa.
Hill, S. S., Wernersville, Pa.
Hinsdale, Guy, Hot Springs, Va.
Hitchcock, C. W., Detroit, Mich.
Hodges, J. A., Richmond, Va.
Hodskins, Morgan B., Palmer, Mass.
Hoffman, G. E., Logansport, Ind.
Hughes, Charles H., St. Louis, Mo.
Hummel, E. M., New Orleans, La.
Huntington, George, Hopewell Jct., N. Y.
Ingham, S. D., Philadelphia.
Jones, W. A., Minneapolis, Minn.
Kindred, J. J., Astoria, L. I., N. Y.
King, G. W., Secaucus, N. J.
Kilbourne, Arthur F., Rochester, Minn.
Langdon, F. W., Cincinnati, Ohio.
Mason, L. D., Brooklyn, N. Y.
Mailhouse, Max, New Haven, Conn.
MacDonald, C. F., New York City.
MacNicholl, T. A., New York City.
McBride, J. H., Pasadena, Cal.
McCarthy, D. J., Philadelphia.
McCaw, W. J., Providence, R. I.
McKennan, T. M. T., Pittsburg, Pa.
McKinniss, C. R., Norristown, Pa.
Miesse, K. DeW., Easton, Pa.
Miller, Louis, Toledo, Ohio.
Mills, C. K., Philadelphia.
Moleen, G. A., Denver, Colo.
Moren, J. J., Louisville, Ky.
Newbold, H. A., Philadelphia.
Orth, H. L., Harrisburg, Pa.
Pantlow, W. D., Tuscaloosa, Ala.
Patrick, H. T., Chicago.
Pershing, H. T., Denver, Colo.
Perry, M. L., Parsons, Kan.
Potts, C. S., Philadelphia.
Pretlow, R. H., Suffolk, Va.
Price, A. D., Harrodsburg, Ky.
Quimby, A. J., Wheeling, W. Va.
Rainear, A. R., Philadelphia.
Regar, H. K., Philadelphia.
Reed, E. L., Atlantic City, N. J.
Robins, W. L., Washington, D. C.
Rosenwasser, C. A., Newark, N. J.
Rutledge, Frances E., Newberry, Mich.
Sachs, Bernard, New York City.
Saunders, C. A., Norfolk, Va.
Scanland, J. M., Warm Springs, Mont.
Scratchley, F. A., New York City.
Shull, John D., Baltimore, Md.
Sinkler, Wharton, Philadelphia.
Smith, Caroline E., Philadelphia.
Smith, J. A., Blackwood, N. J.
Spiller, W. G., Philadelphia.
Spink, Mary A., Indianapolis, Ind.
Stack, S. S., Milwaukee, Wis.
Starr, M. Allen, New York City.
Styll, R. T., Newport News, Va.
Taylor, I. M., Morgantown, N. C.
Taylor, J. M., Philadelphia.
Tomlinson, H. A., St. Peter, Minn.
Town, E. C., Philadelphia.
Tucker, B. R., Richmond, Va.
Uhls, L. L., Osawatomie, Kan.
Walker, W. K., Dixmont, Pa.
Weeks, D. F., Skillman, N. J.
Wenrich, G. G., Wernersville, Pa.
Werber, Gustavus A., Washington, D. C.
Weisenburg, T. H., Philadelphia.
White, E. P. Corson, Norristown, Pa.
Winter, S. Elizabeth, W. Conshohocken, Pa.
Wolfstein, D. I., Cincinnati, Ohio.
Work, H., Pueblo, Colo.
Woodbury, Frank, Philadelphia.
Woods, Matthew, Philadelphia.
Wyman, B. L., Birmingham, Ala.
Zenner, Philip, Cincinnati, Ohio.

Preventive Medicine and Public Health

Abbott, A. C., Philadelphia.
Adelsberger, L., Waterloo, Ill.
Arnold, W. F., Philadelphia.
Bailhache, P. H., New York City (Stapleton P. O.).
Bonbrake, H. X., Chambersburg, Pa.
Bracken, H. M., Minneapolis, Minn.
Brumby, W. M., Austin, Texas.
Carlisle, R. J., New York City.
Clark, G. H., Waterloo, Iowa.
Clark, Margaret V., Waterloo, Iowa.
Clemmer, J. W., Columbus, Ohio.
Crockett, Sidney S., Nashville, Tenn.
Crowder T. R., Chicago.
Dithridge, Louise M., New York City.
Donaldson, W. H., Fairfield, Conn.
Dowling, Francis, Cincinnati, Ohio.
Dunn, Wm. LeRoy, Asheville, N. C.
Dutton, W. F., Pittsburg, Pa.
Egbert, Seneca, Philadelphia.
Evans, W. A., Chicago.
Farquhar, Charles, Olney, Md.
Foltz, J. C., Philadelphia.
Freeman, A. W., Richmond, Va.
Friedrich, Martin, Cleveland, Ohio.
Fulton, J. S., Baltimore, Md.
Furbush, C. L., Philadelphia.
Gates, M. F., U. S. Navy, Philadelphia.
Godfrey, E. S., Jr., Tucson, Ariz.
Gorgas, W. C., Ancon, Panama.
Gottschalk, Leon, Chester, Pa.
Graham, J. C., La Porte City, Iowa.
Grassick, James, Grand Forks, N. D.
Gulon, Edward, Atlantic City, N. J.
Hachtel, F. W., Baltimore, Md.
Harbaugh, C. H., Philadelphia.
Harris, Seale, Mobile, Ala.
Hemenway, H. B., Evanston, Ill.
Holmes, May S., Worcester, Mass.
Holton, Henry D., Brattleboro, Vt.
Hurty, J. N., Indianapolis, Ind.
Ireland, M. W., U. S. Army, Washington, D. C.
Jaques, W. K., Chicago.
Jones, C. H., Baltimore, Md.
Kean, J. R., U. S. Army, Washington, D. C.
Kelley, E. R., Seattle, Wash.
Kellogg, J. H., Battle Creek, Mich.
Kerr, J. W., Washington, D. C.
Knopf, S. A., New York City.
Linder, Anny W., Chicago.
Lumsden, L. L., Washington, D. C.
McCulloch, C. C., Jr., Washington, D. C.
McPherson, D. M., Washington, D. C.
Montgomery, L. H., Chicago.
Morrison, G. H., Whitefield, N. H.
Morrow, Prince A., New York City.
Nagle, J. T., New York City.
North, C. E., New York City.
Overholser, M. P., Harrisonville, Mo.
Patton, G. F., New Orleans, La.
Pedigo, S. E. G., Marshfield, Ohio.
Porter, William, St. Louis, Mo.
Price, M. L., Baltimore, Md.
Rankin, W. S., Wake Forest, N. C.
Rosenberger, R. C., Philadelphia.
Royer, B. F., Harrisburg, Pa.
Ruble, W. A., Washington, D. C.
Russell, F. F., Washington, D. C.
Sanders, W. H., Montgomery, Ala.
Scherer, E. H., Columbia, Mo.
Scofield, W. K., U. S. Navy, Stamford, Conn.
Seaman, L. L., New York City.

Sell, F. W., Rahway, N. J.
Shurtleff, H. C., Philadelphia.
Slack, F. H., Boston.
Stern, C. S., Hartford, Conn.
Sternberg, Gen. G. M., U. S. Army, Washington, D. C.
Stewart, A. H., Philadelphia.
Stewart, M. R., Salt Lake City, Utah.
Stone, W. J., Toledo, Ohio.
Taylor, C. F., Philadelphia.
Valentine, F. C., New York City.
Welch, W. M., Philadelphia.
Wheaton, C. S., Chicago.
White, J. H., New Orleans, La.
Williams, C. F., Columbia, S. C.
Wright, J. W., Erie, Pa.
Wood, Harold B., Philadelphia.
Wyman, Walter, Washington, D. C.

Stomatology

Barsky, Joseph, New York City.
Batten, John Mullin, Downingtown, Pa.
Bogue, Edward A., New York City.
Bogue, Fred L., New York City.
Brennan, John J., Scranton, Pa.
Briggs, Edward Cornelius, Boston.
Brock, R. E., Waynesburg, Pa.
Brown, Ellen E., Chester, Pa.
Brown, George V. I., Milwaukee, Wis.
Bush, Charles B., Orbisonia, Pa.
Casto, Theodore D., Philadelphia.
Crandall, J. B., Sterling, Ill.
Dray, Arthur R., Philadelphia.
Ewen, Warren L., Alloway, N. J.
Filer, B. Boynton, Atlantic City, N. J.
Fisher, William C., New York City.
Gilmer, Thomas L., Chicago.
Gilliland, Caroline J., Sharon, Pa.
Graves, Frederick G., Waterbury, Conn.
Hoff, N. L., Ann Arbor, Mich.
Hussey, Frederic V., Providence, R.I.
Irwin, Alphonso, Camden, N. J.
Jackson, Sarah G., Vineland, N. J.
Johnson, L. W., U. S. Navy, Naval Medical School, Washington, D. C.
Kelley, S. A., Carbondale, Pa.
Kimball, Hannibal H., Minneapolis, Minn.
La Ross, William A., McDonald, Pa.
Maloney, Daniel A., Watertown, Mass.
Metzler, Gottfried, Philadelphia.
McElfresh, C. W., Baltimore, Md.
McNeil, George W., Pittsburg, Pa.
Nyman, John E., Chicago.
Oliver, Robert T., West Point, N. Y.
Power, J. E., Providence, R. I.
Rhein, M. L., New York City.
Rice, Daniel S., Hastings, Pa.
Rice, Charles H., Fitchburg, Mass.
Sands, J. Sheldon, Bristol, Pa.
Schamberg, Morris I., New York City.
Sharp, James G., San Francisco.
Smith, John Fogg, Salem, N. J.
Steinbock, Frederick W., Philadelphia.
Steurer, John A., New York City.
Talbot, Eugene S., Chicago.
Teter, Charles K., Cleveland, Ohio.
Tozier, L. L., Batavia, N. Y.
Trout, N. C., Fairfield, Pa.
Van Buskirk, W. L., Scranton, Pa.
Wendel, W. C., Milwaukee, Wis.
Wilson, James H., Dover, Del.
Zentler, Arthur, New York City.

Dermatology

Abercrombie, John R., Baltimore, Md.
Alderson, M. E., Russellville, Ky.
Alderson, H. E., San Francisco.
Ankrim, L. F., Pittsburg, Pa.
Bathurst, Wm. R., Little Rock, Ark.
Boggs, R. H., Pittsburg, Pa.
Bulkley, L. D., New York City.
Burt, J. C., Pittsburg, Pa.
Campbell, R. R., Chicago.
Casselberry, C. M., Boston.
Chipman, E. D., San Francisco.
Cunningham, J. H., Jr., Boston.
Engman, Martin F., St. Louis, Mo.
Erdman, Bernhard, Indianapolis, Ind.
Farrell, J. T., Providence, R. I.
Finck, E. B., Philadelphia.
Foerster, O. H., Milwaukee, Wis.
Fordyce, J. A., New York City.
Fox, J. F., Bluefield, W. Va.
Fox, G. H., New York City.
Friedrich, L. L., Washington, D. C.
Gaskill, H. K., Philadelphia.
Gnichtel, A. L., New York City.
Grier, G. W., Pittsburg, Pa.
Gold, J. D., Bridgeport, Conn.
Gottheil, W. S., New York City.
Gutshall, F. A., Blain, Pa.
Haase, Marcus, Memphis, Tenn.
Hartzell, M. B., Philadelphia.
Hayes, D. J., Milwaukee, Wis.
Hamlin, O. D., Oakland, Cal.
Handly, J. W., Nashville, Tenn.
Harris, Frederick, G., Chicago.
Hay, E. C., Hot Springs, Ark.
Hazen, H. H., Washington, D. C.
Heidingsfeld, M. L., Cincinnati, Ohio.
Hirsch, C. S., Philadelphia.
Hoffman, H. C., Connellsville, Pa.
Johnston, G. C., Pittsburg, Pa.
Johnston, J. M., Huntingdon, Pa.
Katzenstein, G. P., Philadelphia.
Kellow, W. J., Watertown, N. Y.
Kennedy, D. J., Philadelphia.
Kessler, J. B., Iowa City, Iowa.
Kilroy, Philip, Springfield, Mass.
Knowles, F. C., Philadelphia.
Koehler, H. H., Louisville, Ky.
Langfitt, W. J., Pittsburg, Pa.
Lewis, C. T., Staunton, Va.
Lord, J. W., Baltimore, Md.
Mears, D. W., Scranton, Pa.
Meter, E. G., Reading, Pa.
Montgomery, D. W., San Francisco.
Morrow, Howard, San Francisco.
Murphy, E. S., Dixon, Ill.
Newcomer, M. V. B., Tipton, Ind.
Newman, E. D., Newark, N. J.
Nuzum, T. W., Janesville, Wis.
Ober, G. E., Bridgeport, Conn.
Ochs, B. F., New York City.
Pedersen, James, New York City.
Piffard, H. G., New York City.
Pollitzer, S., New York City.
Potter, Alfred, Brooklyn, N. Y.
Pusey, W. A., Chicago.
Randall, B. A., Philadelphia.
Ravogli, Augustus, Cincinnati, Ohio.
Rostenberg, Adolph, New York City.
Ruggles, E. W., Rochester, N. Y.
Schmidt, L. E., Chicago.
Grosse, Alfred B., San Francisco, Cal.
Stelwagon, H. W., Philadelphia.
Stearns, B. W., Unadilla, N. Y.
Sturgis, F. R., New York City.
Swarts, G. T., Providence, R. I.
Townsend, W. W., Rutland, Vt.
Trimble, W. B., New York City.
Tucker, E. D., Toledo, Ohio.
Uhle, Alexander A., Philadelphia.
VanderVeer, James N., Albany, N. Y.
Varney, Henry R., Detroit, Mich.
Wende, G. W., Buffalo, N. Y.
Wheeler, C. L., Lexington, Ky.
White, Frank, Philadelphia.
Wilson, John G., Perth Amboy, N. J.
Wolbarst, A. L., New York City.
Wolf, Alexander S., St. Louis, Mo.
Wyeth, George A., New York City.

Pathology and Physiology

Aaron, Charles D., Detroit, Mich.
Adler, H. M., Boston.
Anderson, John F., Washington, D.C.
Baldwin, Edward R., Saranac Lake, N. J.
Baldwin, E. C., Rosebank P. O., New York City.
Bergey, David H., Philadelphia.
Cannon, W. B., Cambridge, Mass.
Clark, H. E., Pittsburg, Pa.
Christian, Henry A., Boston.
Caldwell, E. W., New York City.
Colver, B. N., Battle Creek, Mich.
Coplin, W. M. L., Philadelphia.
Councilman, W. T., Boston.
Drake, G. W., Hollins Institute, Virginia.
Dutcher, Adelaide, Syracuse, N. Y.
Elgin, W. F., Glenolden, Pa.
Ellis, Aller G., Philadelphia, Pa.
Gradwohl, R. B. H., St. Louis, Mo.
Haas, S. L., Cleveland, Ohio.
Hamilton, R. A., Washington, D. C.
Henderson, Yandell, New Haven, Conn.
Herzog, Maximilian, Chicago.
Hitchens, A. Parker, Glenolden, Pa.
Hirschfelder, Arthur D., Baltimore, Md.
Hirsh, Jose L., Baltimore, Md.
Hopkinson, Daniel, Milwaukee, Wis.
Jack, George N., Buffalo, N. Y.
Johnstone, O. P., Pittsburg, Pa.
Karsner, Howard T., Philadelphia.

Knabe, Helene, Indianapolis, Ind.
Kotz, A. L., Easton, Pa.
Leary, Timothy, Boston.
Litterer, William, Nashville, Tenn.
MacCallum, William G., Baltimore, Md.
MacCarty, William Carpenter, Rochester, Minn.
McCleary, Standish, Baltimore, Md.
McFarland, Joseph, Philadelphia.
Meader, Isabel M., Watertown, N. Y.
Meltzer, S. J., New York City.
Miller, Edgar Calvin Le Roy, Detroit, Mich.
Newcomet; William S., Philadelphia.
Park, William H., New York City.
Pritchard, William P., Fall River, Mass.
Randolph, R. L., Baltimore, Md.
Ricketts, H. T., Chicago.
Rosenau, M. J., Washington, D. C.
Shoemaker, Harlan, Philadelphia.
Small, J. Hamilton, Philadelphia.
Smithies, Frank, Ann Arbor, Mich.
Tydings, O., Chicago.
Watkins, Robert L., New York City.
Weaver, George H., Chicago.
Welch, William H., Baltimore, Md.
Wells, H. Gideon, Chicago.
White, Courtland Y., Philadelphia.
Wilson, John D., Philadelphia.
Wilson, R. L., Jeannette, Pa.

Pharmacology and Therapeutics

Abbott, W. C., Chicago.
Beates, Henry, Jr., Philadelphia.
Bremerman, L. W., Chicago.
Brown, A. G., Jr., Richmond, Va.
Burdick, Alfred S., Chicago.
Butler, George F., Wilmette, Ill.
Chamberlin, C. S., Cincinnati, Ohio.
Cohen, Solomon Solis-, Philadelphia.
Dunham, H. B., Glen Gardner, N. J.
Edsall, David L., Philadelphia.
England, Joseph W., Philadelphia.
Fantus, Bernard, Chicago.
Frace, P. W., Hoboken, N. J.
French, J. M., Milford, Mass.
Fussell, M. H., Philadelphia.
Goodwin, E. J., St. Louis, Mo.
Gordon, Clark H., Trenton, N. J.
Hallberg, Carl S. N., Chicago.
Hatcher, Robert A., New York City.
Hirsh, A. B., Philadelphia.
Holland, James W., Philadelphia.
Howard, Tasker, Brooklyn, N. Y.
Hunt, Reid, Washington, D. C.
Hyde, E. E., Chicago.
Hynson, Henry P., Baltimore, Md.
Jones, Philip Mills, San Francisco.
Kebler, Lyman F., Washington, D. C.
Larned, E. R., Detroit, Mich.
Lawton, Henry C., Camp Hill, Pa.
LeFevre, Egbert, New York City.
Lewis, H. Edwin, New York City.
McCormack, A. T., Bowling Green, Ky.
McCormack, J. N., Bowling Green, Ky.
Marcus, Herman D., Atlantic City, N. J.
Mason, Robert S., Chester, Pa.
Mays, Thomas J., Philadelphia.
Motter, M. G., Washington, D. C.
Osborne, Oliver T., New Haven, Conn.
Phillips, C. B., Pitman, N. J.
Puckner, W. A., Chicago.
Reilly, Thomas F., New York City.
Remington, Joseph P., Philadelphia.
Robinson, William J., New York City.
Robinson, W. D., Philadelphia.
Rogers, E. B., Collingswood, N. J.
Sajous, C. E. de M., Philadelphia.
Shoemaker, John V., Philadelphia.
Simmons, George H., Chicago.
Slack, Henry R., LaGrange, Ill.
South, Lillian H., Bowling Green, Ky.
Stewart, F. E., Philadelphia.
Stoddard, F. R., Shelburne, Vt.
Taylor, John J., Philadelphia.
Thrush, M. Clayton, Philadelphia.
Upshur, J. N., Richmond, Va.
Van Valzah, J. A., Daytona Beach, Fla.
Wallace, George B., New York City.
Waugh, W. S., Chicago.
Wescott, W. C., Atlantic City, N. J.
Wilbert, M. I., Washington, D. C.
Winner, Jacob L., Baltimore, Md.
Wood, H. C., Jr., Philadelphia.

Diseases of Children

Acker, T. J., Croton-on-Hudson, New York City.
Allin, Frank W., Chicago.
Atkins, George H., Philadelphia.
Bartley, Elias H., Brooklyn, N. Y.
Bauer, Marie L., Philadelphia.
Bennett, William H., Philadelphia.
Black, Robert A., Chicago.
Bowditch, Henry I., Boston.
Boyce, J. Newton, Stanfordville, N. Y.
Bradley, William N., Philadelphia.
Brecker, N. F., Philadelphia.
Brewer, W. C., Columbus, Miss.
Brittingham, James D., Philadelphia.
Brown, Orland J., North Adams, Mass.
Brown, Walter H., Richlandtown, Pa.
Buren, Charles R., Princeton, Mo.
Burhenn, C. G., Jeannette, Pa.
Butler, William J., Chicago.
Butterworth, W. W., New Orleans.
Campbell, Donald, Butte, Mont.
Carr, Walter Lester, New York City.
Cassidy, Paul B., Philadelphia.
Chapin, Henry Dwight, New York City.
Churchill, Frank S., Chicago.
Clark, W. R., East Liverpool, Ohio.
Classon, E. W., Lambertville, N. J.
Coit, Henry L., Newark, N. J.
Connolly, John M., Boston.
Corwin, Arthur I., Rye, N. Y.
Cotton, Alfred Cleveland, Chicago.
Crandall, Floyd M., New York City.
Davis, J. S., Blooming Grove, Texas.
Day, Fessenden L., Bridgeport, Conn.
Dennett, Roger H., New York City.
Dixon, Duncan P., Talladega, Ala.
Dodson, John M., Chicago.
Douglas, Charles, Detroit, Mich.
Dunn, Charles Hunter, Boston.
Dunning, Mary E., Newburgh, N. Y.
Earle, Clarence A., Desplaines, Ill.
Eaton, Percival J., Pittsburg, Pa.
Edwards, J. Gaunt, Williamstown, N. J.
Elliz, G. L., Sherman, Texas.
English, David E., Summit, N. J.
Everhart, James K., Pittsburg, Pa.
Fife, Charles A., Philadelphia, Pa.
Fitzhugh, Henry M., Westminster, Md.
Fraley, Frederick, Philadelphia.
Freeman, Rowland G., New York City.
Furrer, Arnold F., Cleveland, Ohio.
Gengenbach, F. P., Denver, Colo.
Gerstenberger, H. J., Cleveland, O
Gilbert, R. B., Louisville, Ky.
Gochnauer, F., Upperville, Va.
Graham, Edwin E., Philadelphia.
Griffith, J. P. Crozer, Philadelphia.
Hamill, S. McC., Philadelphia.
Hamilton, William T., Philadelphia.
Hand, Alfred, Jr., Philadelphia.
Hanson, D. S., Cleveland, Ohio.
Harral, Walter E., St. Louis, Mo.
Hartman, Lawton M., York, Pa.
Hatton, J. Elizabeth, Brooklyn, N.Y.
Henning, Edward R., Bellefontaine, Ohio.
Hess, Alfred F., New York City.
Hillis, R. J., Altoona, Pa.
Hinkle, Charles G., Batesville, Ark.
Hockman, B. F., Sumner, Ill.
Hollopeter, W. C., Philadelphia.
Holmes, Arthur D., Detroit, Mich.
Howland, John, New York City.
Jacobi, Abraham, New York City.
Jenett, John H., Canandaigua, N.Y.
Johnson, Loren B., Washington, D.C.
Johnstone, Mary M. S., Chicago.
Jones, Arch D., Wichita, Kan.
Keating, W. P. Stuart, Willimantic, Conn.
Kelly, Michael, Fall River, Mass.
Kelley, Samuel W., Cleveland, Ohio.
Kennedy, Lucius C., Scranton, Pa.
Kerley, Charles Gilmore, New York City.
Kerr, Le Grand, Brooklyn, N. Y.
Knipe, Reinoehl, Norristown, Pa.
Koplik, Henry, New York City.
Labbe, Edmond J., Portland, Ore.
Lackner, Ernest, Chicago.
Le Boutillier, Theodore, Philadelphia.
Leech, Frank, Washington, D. C.
Levi, I. Valentine, Philadelphia.
Lewis, Bertha, Malvern, Pa.
Little, George F., Brooklyn, N. Y.
Lopez, Joseph H., Philadelphia.
Loughran, Frederic W., New York
Ludlum, Walter D., Brooklyn, N.Y.
McAlister, Alexander, Camden, N. J.
McClanahan, H. M., Omaha, Neb.
McCorkle, W. P., Pittsburg, Pa.
McEntire, O. W., Howard, Pa.
McEwen, Floy, Newark, N. J.
McKee, James H., Philadelphia, Pa.
McVea, Charles, Baton Rouge, La.
Mercer, A. Clifford, Syracuse, N. Y.
Middleton, M. W., Jr., New York City.
Miller, D. J. M., Atlantic City, N. J.
Miller, John B., Sligo, Pa.
Mills, H. Brooker, Philadelphia.
Morse, J. L., Boston.
Newbecker, Minerva M., Ord, Neb.
Newlin, Arthur, Philadelphia.
Noonan, C. J., Brooklyn, N. Y.
Orr, Winnett H., Lincoln, Neb.
Ostheimer, Maurice, Philadelphia.
Pinneo, Frank W., Newark, N. J.
Pisek, Godfrey R., New York City.
Piskorski, Avdon V., Jersey City, N. J.
Polozker, Isaac Louis, Detroit, Mich.
Porteous, E. J., Atlantic City, N. J.
Potter, Philip S., North Adams, Mass.
Price, Henry T., Pittsburg, Pa.
Putnam, Helen C., Providence R. I.
Radisch, Julius, New York City.
Roberts, Frederick C., Easton, Pa.
Rosenthal, Edwin, Philadelphia.
Rotch, Thomas Morgan, Boston.
Rowland, R. S., Detroit, Mich.
Royster, L. I., Norfolk, Va.
Ruhrah, John, Baltimore, Md.
Ryan, Granville N., Des Moines, Ia.
Schrade, Anna M., Erie, Pa.
Schister, Belle A., Philadelphia.
Scott, Charles R., Belvidere, Ill.
Scott, George Dow, New York City.
Sedgwick, J. P., Minneapolis, Minn.
Shaw, Henry L. K., Albany, N. Y.
Sherk, H. H., Camden, N. J.
Sill, E. Mather, New York City.
Silver, Lewis M., New York City.
Snyder, A. E., New Milford, Pa.
Southworth, Thomas S., New York City.
Sprague, Frances R., San Francisco.
Staunton, Florence I., Utica, N. Y.
Stern, Arthur, Elizabeth, N. J.
Tate, Robert W., Bolivar, Tenn.
Terney, Charles F., Toledo, Ohio.
Thomas, J. J., Cleveland, Ohio.
Todd, Francis H., Paterson, N. J.
Tow, Johanna E., Chicago.
Townsend, H. S., Buffalo, N. Y.
Tracy, George T., Beverly, N. J.
Tuers, George E., Paterson, N. J.
Vanderhoof, F. D., Phelps, N. Y.
Van Derslice, J. W., Oak Park, Ill.
Van Gaasbeek, George H., Kingston, N. Y.
Wahrer, C. F., Ft. Madison, Iowa.
Wallin, Alfred C., New York City.
Weibel, E. G., Erie, Pa.
Welburn, W. C., Bollston, Va
Weston, William, Columbia, S. C.
Whitney, H. B., Denver, Colo.
Wilson, James, Wabash, Ind.
Wister, James W., Philadelphia.

Miscellaneous

The following failed to indicate preference for any section, or marked more than one, on the registration card:

Belville, Frank, Delaware City, Del.
Berner, David, Atlantic City, N. J.
Beyer, W. F., Punxsutawney, Pa.
Blake, Charles H., Newark, Del.
Blanchard, George W., Highland Falls, N. Y.
Blauvelt, G. F., Nyack, N. Y.
Blundell, William, Paterson, N. J.
Bratton, H. O., Columbus, Ohio.
Burgess, L. MacD., Delta, Colo.
Castelli, Enrico, New York City.
Clark, George G., Philadelphia.
Dalsimer, Leon, Philadelphia.
Drinkwater, W. G., Gormania, W. Va.
Diverty, Henry B., Woodbury, N. J.
Dundon, A. H., Plainfield, N. J.
De Loffre, S. M., Columbus Barracks, Ohio.
Earle, J. B., Greenville, S. C.
Eisenberg, P. Y., Norristown, Pa.
Emmerling, C. H., Pittsburg, Pa.
English, David C., New Brunswick, N. J.
Fleming, Thomas J., Philadelphia.
Fowlkes, Frank Vaughan, Burkeville, Va.
Fox, W. H., Waucoma, Iowa.
Glidden, C. H., Little Falls, N. Y.
Green, Herlwyn R., Providence, R. I.
Grube, J. Miles, Punxsutawney, Pa.
Harden, Albert Scott, Newark, N. J.
Hargrove, W. F., Kinston, N. C.
Hebb, Arthur, Baltimore, Md.
Herrman, M. F., Philadelphia.
Hirshberg, Leonard Keene, Baltimore.
Houghton, Charles W., Philadelphia.
Hunsicker, Hannah M., Olney, Philadelphia.
Jamieson, Robert A., Detroit, Mich.
Jenson, Thomas, Spring Grove, Minn.
Karpeles, M. J., Philadelphia.
Kerr, J. P., Pittsburg, Pa.
King, J. E., Richmond, Ind.
Lane, T. B., East Orange, N. J.
Laverty, O. C., Middletown, Pa.
Lawrence, Florus F., Columbus, Ohio.
Lenow, James H., Little Rock, Ark.
Lovett, Henry Langhorn, Pa.
Lownes, John B., Philadelphia.
Lysaght, Ellen, Brooklyn, N. Y.
Mahaffey, J. Lynn, Camden, N. J.
Manges, Willis F., Philadelphia.
Marshall, George W., Milford, Del.
McComb, Samuel F., Tarentum, Pa.
McCurdy, Stewart L., Pittsburg, Pa.
McKeldin, R. A. W., Philadelphia.
Metzler, V. W., Atlantic City, N. J.
Modell, Daniel A., Philadelphia.
Montgomery, R. H., Youngstown, O.
Norton, F. D., Columbus, Ind.
Nute, Marion, Boston.
Pancoast, Henry K., Philadelphia.
Patterson, James A., Colorado Springs, Colo.
Porteus, J. S., Taylor, Pa.
Price, F. F., Carbondale, Pa.
Putnam, James J., Boston.
Purdy, William H., Mt. Vernon, N. Y.
Raymond, Katharine P., Wellesley, Mass.
Schmitt, A. Emil, Riverdale-on-Hudson and New York City.
Scott, B. F., Terra Alta, W. Va.
Scott, W. S., Chillicothe, Ohio.
Seiberling, Fred C., Allentown, Pa.
Shimer, A. Burton, Atlantic City, N. J.
Shimer, Will, Wanamaker, Ind.
Shively, J. D., Boulder, Colo.
Slee, Richard, Nanuet, N. Y.
Staneff, Demetrius, Chicago.
Steiner, D. W., Lima, Ohio.
St. John, David, Hackensack, N. J.
Taylor, A. Miles, San Francisco, Cal.
Turner, J. P., Greensboro, N. C.
Van Korb, William, Philadelphia.
Wills, William L., Los Angeles, Cal.
Waite, Henry E., New York City.
Wallace, H. R., Chicago.
Warren, John S., New York City.
Wehlau, Alma L., Scranton, Pa.
Welch, E. H., Winsted, Conn.
Wilson, G. de Foix, Spartanburg, S. C.
Wolfort, Benjamin E., Brooklyn, N. Y.
Wymore, W. W., San Francisco, Cal.
Young, G. B., Chicago.

Guests

Partial list of invited guests and others in attendance from outside the United States or outside the medical profession (not including those admitted to dental, pharmaceutical and associate membership). A complete list can not be given as many did not register.

Lane, W., Arbuthnot, London, Eng.
Beebe, S. P., New York City.
Dow, William, Regina, Sask.
Darling, Dr. Samuel T., Ancon Hospital, Canal Zone.
Grant, Sir James, Ottawa, Canada.
Guiteras, Juan, Havana, Cuba.
Harmer, Gerold, London, England.
Lauterman, M., Montreal, Canada.
Nonne, Max, Hamburg, Germany.
Pernet, George, London, England.
Powell, N. A., Toronto, Ontario.
Seymour, W. F., Tengchowfo, China.
Treble, Charles E., Toronto, Ontario.
Weigert, med. Kurt, Freiburg im Breisgau, Germany.
Wright, John D., New York City.

Marriages

Harry S. McGee, M.D., to Miss Gladys E. Tuthill, both of Douglas, Ariz., June 14.

John R. Bosley, M.D., U. S. Army, to Miss Gerda Danielson, at Seattle, May 26.

Oliver F. Mershon, M.D., to Miss Goldie May Small, both of Philadelphia, April 28.

John H. Jopson, M.D., to Miss Susannah B. Michener, both of Philadelphia, June 7.

Theodore Bange, M.D., Cincinnati, to Miss Bess Carnahan of Blanchester, Ohio, June 9.

Sankey Bacon, M.D., U. S. Navy, to Miss Elizabeth Taggart, of Washington, June 16.

Spence Redman, M.D., to Miss Myrtle Higgins, both of Platte City, Mo., April 15.

Albert W. Garren, M.D., to Miss Hattie W. Burnham, both of Philadelphia, June 23.

Hugh McDowell Beebe, M.D., Sidney, Ohio, to Miss Ruth Pearson of Troy, Ohio, recently.

Mathew A. Reasoner, M.D., U. S. A., to Miss Mabel Sparks Milnor of Litchfield, Ill., June 10.

Claud N. Smith, M.D., Clinton, N. C., to Miss Dora H. Tew, at Richmond, Va., June 17.

John R. Burleson, M.D., Hamilton, Ala., to Mrs. Carrie Dodd of Hackleburg, Ala., June 7.

Homer Brandel Smith, M.D., Boston, to Miss Gertrude Day Jerome of New York City, recently.

Arthur Willard Fairbanks, M.D., Boston, to Miss Edythe Clarke of Brookline, Mass., June 19.

James D. Carey, M.D., Timnath, Colo., to Miss Florence Josephine Stover of Chicago, June 9.

Theodore Hough, M.D., Charlottesville, Va., to Miss Ella Guy Whitehead of Richmond, June 12.

Edwin A. Sanborn, M.D., Somerville, Mass., to Miss Blanche A. Smith of Lowell, Mass., June 8.

Leroy D. Howard, M.D., Fairmont, W. Va., to Miss Edna Pearle Sturgis of Smithfield, Pa., June 23.

James Barnard Hastings, M.D., Alton, Ill., to Miss Elizabeth Norris Morgan, at Alton, Ill., June 15.

Robert A. Schlernitzauer, M.D., Cocoa, Fla., to Miss Ruth Hardee of Rock Ledge, Fla., June 16.

Lee Washbon Prescott, M.D., Sloan, Iowa, to Miss Sarah Estella Thompson of Cresco, Iowa, June 9.

Frank Wheeler Hornbrook, M.D., to Miss Anna Maria Kelley, both of Tobyhanna, Pa., June 19.

Walter T. Venn, M.D., to Miss Maude Eagleston, both of Aurora, Ill., at Crown Point, Ind., June 16.

George E. Malsbary, M.D., Cincinnati, Ohio, to Miss Norma Helwig of Clifton, Ohio, at Piqua, Ohio, June 13.

Lewis Almond Harmon, M.D., Marshall, Mich., to Miss Ethel Anna Conley of San Antonio, Texas, June 23.

John C. McLaughlin, M.D., Norwich, Conn., to Miss Rebecca E. Thompson, at Ellicott City, M.D., June 3.

Deaths

Justin Steer, M.D. New York University, New York City, 1876; a member of the American Medical Association; professor of clinical medicine and later professor of internal medicine in Washington University, St. Louis; physician to Mullanphy Hospital and associate attending physician to the St. Louis Skin and Cancer Hospital; was found dead in bed at his home in St. Louis, June 20, from the effects of chloroform and hydrocyanic acid, taken with suicidal intent while mentally deranged from overwork, aged 60. The members of the faculty of Washington University Medical Department acted as honorary pallbearers at the funeral.

Thomas Padon Wilson, M.D. Cleveland University of Medicine and Surgery, 1857; formerly president of the Pulte Medical College, Cincinnati, and professor of therapeutics in the University of Michigan Homeopathic Medical College, Ann Arbor; for many years editor of the *Medical Advance*, Chicago, and later a resident of Detroit, Mich.; died at the home of his daughter in Upper Montclair, N. J., June 23, from paralysis, aged 78.

Lucian Lavassa Leeds, M.D. Rush Medical College, Chicago, 1856; a member of the American Medical Association and Brainerd District Medical Society; for fifty-seven years a practitioner of Illinois; city councilman of Lincoln; for twenty-six years a member of the board of education, and for twelve years its president; died at his home in Lincoln, June 19, aged 78.

George Washington Stoyer, M.D. Western Pennsylvania Medical College, Pittsburg, 1903; a member of the American Medical Association; formerly attending physician to Buhl Hospital, Sharpsville, Pa.; was found dead in his office in Three Forks, Mont., June 18, from the effects of an overdose of morphin, aged 33.

Hugh Ferguson, M.D. New York University, New York City, 1858; a member of the Massachusetts Medical Society; for about thirty years a member of the attending staff of Carney Hospital; one of the oldest practitioners of South Boston; died at his home, June 13, from intestinal disease of long standing, aged 72.

George William Mosier, M.D. Jefferson Medical College, Philadelphia, 1886; of Morristown, N. J.; formerly a police surgeon of Philadelphia; and visiting physician at the German Hospital; died in All Soul's Hospital, Newark, N. J., June 9, after an operation for peritonitis, aged 51.

Neil Donald Gunn, M.D. McGill University, Montreal, 1888; formerly a member of the American Medical Association; of Montreal, Que., and Pasadena, Cal.; died at his home in Pacific Grove, Cal., June 4, from burns received in an explosion of benzine, the day before, aged 46.

Andrew M. McCabe, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; a member of the Medical Society of the State of Pennsylvania and of the staff of St. Francis Hospital, Pittsburg; died at his home in Allegheny, June 13, from acute gastritis, aged 37.

John L. Dismukes, M.D. University of Pennsylvania, Philadelphia, 1856; a member of the Kentucky State Medical Association; surgeon in the Confederate service during the Civil War; died at his home in Mayfield, Ky., June 16, from senile debility, aged 78.

William Pitt Norris (license, Iowa, 1887); a practitioner since 1873; and a member of the Iowa Railway Surgeons' Association and the Tri-State Medical Society; died at his home in Birmingham, Iowa, February 3, from cerebral hemorrhage, aged 57.

Louis Thornton Wilson, M.D. Harvard Medical School, Boston, 1902; of Boston, Mass.; a member of the American Medical Association; assistant visiting surgeon at the Boston City Hospital; died in that institution, June 17, from pneumonia, aged 32.

William Henderson Reynolds, M.D. University of Alabama, Mobile, 1885; of Union Springs; a member of the Medical Association of the State of Alabama; physician of Bullock county; died in St. Margaret's Hospital, Montgomery, June 19, aged 52.

Lenox E. Newman, M.D. Memphis (Tenn.) Hospital Medical College, 1908; of Meadville, Miss.; died June 17, in the Chamberlain Sanitarium, Natchez, Miss., from gunshot wounds received in a feud fight at Meadville, June 14, aged 22.

Joseph Hallanan, M.D. Cincinnati College of Medicine and Surgery, 1870; of Logansport, Ind.; a member of the Indiana State Medical Association; died in the State Hospital, Longcliffe, June 16, from hypertrophy of the heart, aged 58.

Thomas Dabney Hare, M.D. Jefferson Medical College, Philadelphia, 1854; president of the Bowie county, Texas, board of U. S. Pension Examining Surgeons; died at his home in Greenville, June 2, from disease of the liver, aged 59.

Robert R. Murray, M.D. Atlanta (Ga.) Medical College, 1859; a Confederate veteran, and later a member of the state legislature; died suddenly at his home in Powder Springs, Ga., June 18, from cerebral hemorrhage, aged 72.

George Sherwood Means, M.D. University of Buffalo, N. Y., 1897; a member of the Medical Society of the State of New York; assistant surgeon N. G. N. Y.; died at his home in Geneva, June 14, from kidney disease, aged 39.

Samuel K. Harriman, M.D. Eclectic, Philadelphia, 1871; Jefferson Medical College, Philadelphia, 1883; of Providence, R. I.; died in the Rhode Island Hospital in that city, June 20, after an operation for appendicitis, aged 63.

Lorenzo D. Coombs, M.D. Hahnemann Medical College, Chicago, 1875; Chicago Homeopathic Medical College, 1879; a veteran of the Civil War; died at his home in Ypsilanti, Mich., June 20, from heart disease, aged 73.

Joseph O'Grady, M.D. Bellevue Hospital Medical College, New York City, 1883; for many years connected with the Brooklyn health department; died at his home in Brooklyn, June 22, from cerebral hemorhage, aged 56.

Franklin L. Powell, M.D. Cincinnati College of Medicine and Surgery, 1884; of Seattle; a member of the Washington State Medical Association; died in the Providence Hospital in that city, May 28, from diabetes, aged 60.

Joseph S. Eaton (years of practice, Minn.); a veteran of the Civil War; and for more than forty years a practitioner of Benson, Minn.; died at his home, Jan. 18, 1908, from paralysis, due to spinal injury, aged 65.

Harvey Newton Dale, M.D. Eclectic Medical Institute, Cincincinnati, 1856; Bennett Medical College, Chicago, 1876; a pioneer practitioner of Rice county, Minn.; died at his home in Faribault, June 13, aged 79.

Ogden D. Phillips, M.D. Western Reserve University, Cleveland, 1881; for more than fifty years a practitioner of Fremont, Ohio; died at his home in that city, June 12, from disease of the bladder, aged 73.

Nimrod A. Spencer, M.D. (license, Mo., 1883); a member of the Missouri State Medical Association; died at his home in DeWitt, Mo., June 6, from the effect of a self-inflicted gunshot wound of the brain, aged 65.

Martin Caraballo, M.D. University of Havana, Cuba, 1882; of Tampa, Fla.; a member of the American Medical Association; died in the Hospital of the University of Maryland, Baltimore, June 9, aged 50.

Eva McPhee Lewis, M.D. Hahnemann Medical College, Chicago, 1896; of San Diego, Cal.; a member of the Medical Society of the State of California; died at the Agnews Sanitarium, June 9, aged 38.

William H. Jones (license, Tenn., 1896); for many years a member of the board of U. S. Pension Examining Surgeons of Hancock county, Tenn.; died at his home in Sneedville, Tenn., June 14, aged 84.

Horace A. Paxton, M.D. College of Physicians and Surgeons, Baltimore, 1878; of Buffalo Forge, Va.; a Confederate veteran; died at the home of his nephew in Lexington, Va., June 12, aged 66.

Benjamin C. Sympson, M.D. (license, Ky., 1894, thirty-three years' practice); Kentucky School of Medicine, Louisville, 1860; died at his home in Mardis, Ky., June 6, from senile debility, aged 81.

Clarence M. Dodge, M.D. New York University, New York City, 1877; a member of the New Hampshire Medical Society; died at his home in Manchester, June 19, from cerebral hemorrhage, aged 62.

Monroe S. Leech, M.D. Eclectic Medical Institute, Cincinnati, 1871; Rush Medical College, Chicago, 1882; a veteran of the Civil War; died at his home in Chicago, June 24, from nephritis, aged 61.

Legare L. Hargrove, M.D. University of Maryland, Baltimore, 1891; of Deanes, Va.; died in the Sara Seigh Hospital, Norfolk, Va., June 16, after an operation for cholangitis, aged 40.

John Hislop, M.D. Jefferson Medical College, Philadelphia, 1892; a member of the Kansas Medical Society and a pioneer practitioner of Smith county; died at his home in Lebanon, June 10.

George Eaton Adams, M.D. University of Virginia, Charlottesville, 1904; a member of the American Medical Association; died at his home in Fort Worth, Texas, June 16, aged 26.

Isaac Sanford Curtis, M.D. Medical School of Maine, Brunswick, 1872; for several years postmaster of Topsham, Maine; died suddenly at his home in Brunswick, Maine, June 9, aged 70.

Albert Caleb Blanchard, M.D. Rush Medical College, Chicago, 1895; of Linden, Wis.; a member of the American Medical Association; died in Madison, Wis., June 19, aged 36.

John D. Quill, M.D. New York Homeopathic Medical College, New York City, 1876; died at his home in Wallingford, Conn., June 18, from tuberculosis of the brain, aged 62.

Richard C. Hammond, M.D. College of Physicians and Surgeons, Baltimore, 1878; died at his home in Burleigh, Ellicott City, June 13, from cerebral hemorrhage, aged 55.

Hugh White Griffith, M.D. University of Nashville, Tenn., 1874; for eight years physician of Marion county, Tenn.; died at his home in Jasper, May 25, aged 70.

Archibald Monroe Newman (license, Miss.); of Meadville, Miss.; clerk of the chancery court of Franklin county; was shot and killed in a feud at Meadville, June 14.

Holland L. Anderson, M.D. University of Louisville (Ky.) 1894; died suddenly from pulmonary hemorrhage, at his home in San Angelo, Texas, June 13, aged 40.

Robinson J. Peak, M.D. University of Louisville, Ky., 1877; formerly of Owenton, Ky.; died in Mount Pleasant, Mich., May 26, 1909, from nephritis, aged 51.

Thomas Cosgrove, M.D. Detroit (Mich.) Medical College, 1871; formerly of Sylvania, Ohio; died at his home in Toledo, June 11, from nephritis, aged 75.

Richard Edgar Grier, M.D. Howard University, Washington, 1894; a pioneer colored practitioner of Albany, Ga.; died at his home in that city, June 13.

E. M. Davenport, M.D. Louisville (Ky.) Medical College, 1875; died at his home in Midland, Ark., June 9, from cerebral hemorrhage, aged 57.

William Andrew Chatterton, M.D., a homeopathic practitioner of Elgin, Ill.; died in that city, May 26, from angina pectoris, aged 68.

Willis Spencer Snedigar, M.D. Cooper Medical College, San Francisco, 1890; died at his home in Stockton, Cal., June 10, from appendicitis.

Francis Asbury Sproles, M.D. Knoxville; of Big Stone Gap, Va.; died at Benham's, Va., June 30, 1908, from tuberculosis, aged 40.

George Lloyd Mackelcan, M.D. McGill University, Montreal, 1860; died at his home in Hamilton, Ont., June 10, aged 74.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE ASSOCIATION OF STATE SECRETARIES AND EDITORS OF STATE JOURNALS

Its Important Functions in Maintaining Effective Organization in State Societies

E. J. GOODWIN, M.D.,
St. Louis

The formation of the Association of State Secretaries and State Journal Editors was accomplished at the meeting of the American Medical Association in Chicago, in 1908, and a definite plan adopted for outlining the objects and purposes of the association. Such an organization has before it the prospect of becoming the most powerful of all the auxiliary bodies of the executive department of the American Medical Association, in furthering the accomplishment of the reforms that the reorganized medical profession has undertaken in behalf of doctor and of the people.

Including in its membership, as it does, the secretaries of the state associations, who are in direct, constant and intimate communication with the county society secretaries; and the editors of the state journals, whose work brings them also into the closest relation with the county society secretaries, it must be apparent that the responsibility of maintaining harmonious, active and effective county societies rests largely on the members of this body; and that without numerous county societies, actively engaged in the work of advancing the objects of organized medicine, the state associations will be correspondingly weak and unprogressive, with the resultant derogatory effect on the American Medical Association, whose power and influence would be thereby weakened and curtailed.

It then becomes the first and most important function of the Association of State Secretaries and Editors to foster the strength of the county medical societies in each of the states represented; for the county society is the foundation on which our whole scheme of organization is built. We must have, therefore, strong, aggressive and progressive county societies, and the time should come, and come soon, when, through the deliberations of this association, all state associations can offer their members certain specific and personal benefits accruing from the membership in the organization. Let us not fix our vision on the distant horizon, where Utopia lies and physical perfection is the unearned heritage of all, forgetting, the while, that physicians now endure many unnecessary hardships because of misapprehension, misconstruction, unbelief, and even ingratitude, on the part of the people. It is our duty to conserve the health of the nation and to prevent disease; but it is not less our duty to protect ourselves and be prepared to assist each other in the time of adversity that comes to most of us at some period in our career.

When the state journal was first established, it was thought that it alone would be a sufficient inducement to cause a rapid access in membership of the state association, since the payment of dues in the county society included subscription to the journal; and there was a high increase in the number of members. But this attraction did not prove alluring enough to very many reputable practitioners, and they remained outside the county society. Later, in some states, it was found feasible and proper to offer, as an additional benefit to be derived by membership, the assistance of the association in defense against civil suits for alleged malpractice. This added benefit has drawn a great many into the local societies who were not willing to acknowledge that simple organization, with its humanitarian objects, was sufficiently beneficial to themselves to require affiliation with the county society.

In all the states that publish journals subscription to the journal has been extended without an extra assessment over the regular annual dues, and of those states which provide for medical defense this privilege is secured without an increase of dues. In other states, however, this privilege is secured only on the payment of an added sum, either by increasing the dues or by special levy. In every case, however, it has strengthened the state association, and, as we grow in numbers and in influence, other benefits can be offered as inducements to join the local societies which this association can advocate and advise to be adopted by the state associations.

Since the state journal is the mouthpiece of the state association and the medium of communication between its members, it should be in all respects a journal of information, primarily devoted to the interests of its own state organization. We have not yet passed the transition stage in our process of organization, and, therefore, the journal should exert all its influence toward strengthening the county society and the state association. In furthering this object, its first duty is to the county society. The editor of the state journal should watch the workings of the county society quite as closely as does the secretary of the state association, and see that full publicity is given to those societies whose proceedings mark them as being good examples of the beneficial results of organization.

There are three highly important objects which the county society should aim to attain, namely, (1) to enhance the quality of the scientific work of its members, as in the preparation of papers, the presentation of specimens and patients, and in the discussion following such proceedings; (2) to increase the political influence of the county society in all legislative matters pertaining to the public health, and (3) to instruct its members in improved methods of medical economics.

All these objects are being accomplished concomitantly with medical organization, but only incidentally and slowly. THE JOURNAL of the American Medical Association is constantly emphasizing the importance of these three phases of county society work, but their study has not been seriously undertaken by county societies generally. In the matter of improved scientific work we already see what can be accomplished by the postgraduate course established by Dr. Blackburn. There will be an equally great amount of good come from an increase of the political influence of the county societies, and the establishment of a better system of economies in the management of the business affairs of the doctor. We must not forget, in our enthusiastic and creditable labor in behalf of the people, that the people have been somewhat negligent of the doctor; therefore, while we are teaching them how to protect themselves from sickness, let us also teach them how to respect and appreciate the physician. It should be one of the prime duties of the editors of the state journal to keep before the members of the association the necessity of studying these three phases of county society work.

One of the most important functions of the state journal is the fostering of a spirit of cooperation between the daily press and the medical profession toward the elimination of quackery and charlatanism in medicine. This will be a hard and long battle, no doubt, but we believe that in the end we shall gain our desires. The nauseating, filthy, suggestive advertisements which formerly appeared in all newspapers, are not as prevalent as they were before the reorganization of our profession; but much still remains to be done in order to bring newspaper publishers to a proper understanding of the harm these persons do, and the state journals should be foremost in this work. In fact, the time is fast approaching when newspapers will welcome a system of censorship on all medical advertisements and news matter of a medical nature, and this association can and should assume the duty of hastening this time by formulating some method of supervision which would be acceptable to the owners and editors of the daily papers.

Unaided by a properly trained medical assistant, newspaper men can not discern a scientific discovery of real value as a medicinal measure from the blatant boasting of some far-away quack; hence they publish all medical items without scrutinizing their source or the probable object of their authors. We believe there is a disposition on the part of the editors of the better class of newspapers to adopt such a system, if it can be made plain to them that they are too often purveyors of false and unscientific matter, prepared solely for advertising some humbug disguised as a respectable doctor or institution.

If this matter is undertaken seriously and with the spirit of offering mutual advantages, and the protection of the public from fraudulent imposition, it would lead to another desirable phase of press cooperation, now totally lacking, or assumed usually in a spirit of levity, and hence, inaccurately and inadequately done; I refer to the publicity given to state medical association meetings. As a rule, the local paper, in the town where the meeting is held, gives a half column or so, but no telegraphic reports are sent to other parts of the state. It would be much to the advantage of the profession if its proceedings were given wider publicity and the real results of its deliberations published, although, of course, always under censorship of some competent member of the society.

Society Proceedings

COMING MEETINGS

American Ophthalmological Assn., New London, Conn., July 14-15.
Idaho State Medical Association, Seattle, Wash., July 19.
Oregon State Medical Association, Seattle, Wash., July 19.
Washington State Medical Association, Seattle, July 20.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting held at Philadelphia, June 3-5, 1909

The President, DR. C. B. G. DE NANCREDE, Ann Arbor, Mich., in the Chair

Address of the President: Extirpation of Scapula for Malignant Disease

DR. C. B. G. DE NANCREDE, Ann Arbor, Mich.: The statistics dealing with extirpation of the scapula are misleading, because cases which are primary in the scapula and secondary in the soft parts, operations which are done in two stages, and those performed for benign growths, for caries, injury and tuberculous disease, are all included in the statistics usually given. Indeed, in one paper, a case in which the scapula was removed after death was included. There is no discrimination in any of the tables between operative recovery and the end-results, investigation showing that a large number of patients who are reported as having recovered have later died of recurrence of the trouble. The three-year rule has been ignored in like manner, for it is well known that this is utterly unreliable for any form of malignant disease. One patient had an inoperable recurrence at the end of five years, yet this was included by the reporter as a recovery. Recurrences are often the source from which generalization takes place. Careless examination of the patient and the expectation of finding marked difference between the physical signs in the two lungs often lead to the opinion that pulmonary metastases have not occurred, the true explanation being that metastases are so numerous and so small and finely distributed that the physical examination is unreliable. The death rate probably is now lower with the new methods of operating, saving blood and preventing shock, and it is possible therefore that some of those who died in the past from shock and hemorrhage might have shown a few permanent cures if they had survived. It is a matter for future investigation to determine whether interscapulo-thoracic amputation would not give more permanent recovery. The usefulness of the upper extremity after the removal of the scapula is usually so good that, of course, hesitation is felt about doing the operation just mentioned in which the whole upper extremity is ablated. The details given in the tables seem to warrant the above conclusions. There is only one case on record in which the details were obtainable sufficiently long to prove that it is really a cure, the patient being entirely well at the end of eight years. A few more were probably cured, although not reported long enough to be past the time that recurrences have been noted. A vast number of those who are said to be cured have been observed from only a few weeks to a few months and then lost sight of. Operation for pure enchondroma and other diseases demanding excision of the scapula present favorable results.

Chronic Intestinal Stasis

Mr. W. Arbuthnot Lane, London, England, referred to his earlier communications on this subject, with special reference to the removal of the colon for chronic constipation and described the technic of the operation:

In nine cases I have removed the colon, and of this number one patient died from the rupture of a small abscess in the original cavity. In a number of private cases division of the hilum at its junction with the bowel was effected, with no death from the operation *per se*. Removal of the large bowel is a serious operation; but the danger attending its performance varies with the degree of toxemia. I do not, however, recommend or advise such a radical operation until all other measures, medicinal and hygienic, have been tried. The danger of the operation can be reduced very materially by the subcutaneous injection of a large quantity of normal salt solution immediately before operation.

DISCUSSION

Dr. J. C. Bloodgood, Baltimore: Chronic constipation has in some instances an anatomic basis. I would call attention to the use of the *x*-ray and injection of bismuth as a method of diagnosis in these cases. I believe this method will be used more frequently in the future in the class of cases under discussion as it is used now in cases of aneurisms, bone lesions, etc. Recently I operated on a patient who for three years had had pain in the lower abdomen. On exposing the right side some of the adhesions referred to by Mr. Lane were found, and on exposing the left side the sigmoid could be lifted out of the abdomen as easily as one could lift out a loop of the small intestine. The anatomic lesion in this case was an enlarged sigmoid from fecal matter. The sigmoid itself was normal. The mesentery was normal. These adhesions were separated with good results. In another case the adhesions were more pronounced. In this case the bowel was not resected, the patient being relieved by medical treatment. There is no difficulty in resecting the intestine and performing lateral anastomosis, but if one can demonstrate early in the cases a band or adhesion or the anatomic condition, and medical treatment will relieve it, more good will be done than by resecting the sigmoid.

Dr. Thomas W. Huntington, San Francisco: It has seemed to me for many years that many of these cases of enteroptosis, bearing especially on the large bowel, can be avoided by two things: 1. Careful attention in early life to the emptying of the bowel. In a large number of people in the hands of the average general practitioner a more or less permanent accumulation of fecal matter in the large bowel has been overlooked. 2. I believe this accumulation of fecal matter is due to a definite cause. Take, for instance, an appendix which has not given rise to the ordinary symptoms, it has caused sufficient irritation to interrupt the peristaltic wave and to bring about a condition of the bowel which is extremely disastrous in the carrying of residual material. Careful attention in early life to the emptying of the bowel will obviate the possibility of the occurrence of prolapse of the sigmoid, and by loosening up the large bowel and changing its environment or its relation we may avoid early operation for a pathologic condition which exists. Careful study and search for the pathologic condition, as an obscure appendix, will enable us to escape from the latter consequences which the author has portrayed.

Dr. Arthur Dean Bevan, Chicago: As I understand Mr. Lane, he makes a plea for operative intervention in cases of chronic constipation. I should insist on intestinal obstruction before I should undertake such an operation as the removal of a part or the whole of the colon for chronic constipation. The large and small bowels perform their functions admirably sometimes in spite of extensive adhesions. That is evident after many operations. We should discuss this as a sort of borderline subject in which in our cases we should call into consultation the internists. What would internists think of surgeons if they took the position of treating chronic constipation by resection of the large intestine or by anastomosis? Most of these cases can be much better handled by our internists by exercise, hygiene, etc., than by extensive surgical operation. Personally, I protest against advocating an operation so extensive as the removal of the colon for chronic constipation itself, and should insist on reserving the operation for absolute intestinal obstruction.

Dr. John F. Binnie, Kansas City, Mo.: As I understand, Mr. Lane only advocated this operation for chronic intestinal stasis after all other measures of treatment had failed. I have practiced cecostomy in a number of these cases with fair temporary results, but have not observed the patients sufficiently long to determine whether the results will be permanent or not.

Dr. John B. Roberts, Philadelphia: I must agree partly with what Dr. Bevan has said, because of some recent experience I have had with intermittent obstruction of the bowel due to kinks and various other causes; but I realize that Mr. Lane does not propose to open the abdomen of everybody for the relief of chronic constipation. After the internists have failed to afford relief to these patients by exercise, medical, and dietetic measures, then surgical operations may do good in the class of cases discussed.

Dr. Maurice H. Richardson, Boston: We must approach the surgery of the large intestine in cases of this kind, as Dr. Bevan says, from the symptomatology of chronic intestinal obstruction. We all see cases of complete chronic intestinal obstruction which demand a most thorough radical operation. In one of my cases of complete volvulus of the sigmoid which threatened life the sigmoid filled the whole abdomen, producing an acute obstruction of the bowel which necessitated operation.

Dr. W. B. Coley, New York: Every severe case of acute intestinal obstruction requires operation, and the operation is attended with great danger. Of nine patients operated on, death followed in every case. I reported a case of volvulus of the sigmoid to the New York Surgical Society, which was preceded by attacks of chronic intestinal obstruction, ending with an acute obstruction. I operated on the patient on the ninth day, when he was almost moribund, with great distension of the abdomen, high pulse, elevated temperature, etc. I opened the abdomen under cocain anesthesia (as he could not stand a general anesthetic) over the sigmoid, relieved the obstruction, and the man recovered.

Mr. A. Lane: I wish it to be distinctly understood that this form of operative treatment is suggested only after all other measures have failed.

(To be continued)

AMERICAN ACADEMY OF MEDICINE

Thirty-fourth Annual Meeting, Hotel Dennis, Atlantic City, N. J., June 5-7, 1909

(Continued from page 2124, Vol. LII)

Rational Medical Education Will Supply Physicians Adequate for the Entire Field of Practice

Dr. Leartus Connor, Detroit: In studying the products of our educational system, I find: 1. The fresh products are rarely welcomed by the people. 2. These products lack evidence of a training based on a broad study of the entire field of family medical practice, or logical adjustment of indisputable facts. 3. These products exhibit an embarrassment of undigested facts and theories; an inability to utilize the best methods of managing the simplest forms of disease; an initiative crippled by efforts to train them as family physicians and specialists, by the same machinery, at the same time; and individual antagonism instead of mutual cooperation. There is need for system of education able to produce two classes of medical colleges, text-books, and medical literature adapted to training two classes of doctors, viz., the family physician, and the unlimited practitioner. The only rational standard for judging a system of medical education is its fitness to supply those products that most meet the needs of the entire medical field. I suggest that the organized profession determine exactly what the family physician can be trained to do, and how much, in each simple disease and beginnings of the complex, without interfering with like training in any other disease. This, state boards of registration can require of applicants for license; authors make easy of access through text-books; medical societies discuss; medical colleges teach; and medical journals keep before physicians until it become the accepted guide for medical education. A rational system calls for teachers trained in the profession of teaching as well as in that of medicine, and institutions saturated with the pedagogic spirit, method and practice. It is the clear obligation of the organized profession to promote the evolution of such rational system of medical education.

DISCUSSION

Dr. Charles McIntire, Easton, Pa.: Dr. Connor's paper shows how we are failing, and if I mistake not, educators in other fields are conscious of an analogous shortcoming. Prof. A. H. Chamberlain of the Throop Polytechnic Institute writes: In these institutions (technical colleges) men must be prepared, not alone to carry out the will of another; not simply to be exact machines to execute the plans presented to them. The products of these schools must possess initiative, imagination, individuality; they must be experts, leaders, investigators, executives; they must plan and lead, not follow merely; they must create as well as construct. And to secure this end he pleads not for earlier specialization but for broader culture. It would seem that these words afford a clue to the general problem—our training has been toward specialization too exclusively, and to teach it all within the university courses. We are trying to make expert practitioners instead of training men that they may become physicians. Abraham Flexner in his "The American College" writes: "The important thing is to realize that the American college is deficient, and unnecessarily deficient, alike in earnestness and in pedagogical intelligence; in consequence our college students are, and for the most part emerge, flighty, superficial and immature, lacking, as a class, concentration, seriousness and thoroughness. While James P. Munroe in *World's Work* for May, formulates a severe arraignment against the high school. And there is hardly a diagnostician of the ills of our educational system that does not lay some of the blame for the pathologic condition to a faulty management of the scholar in the "grades."

Dr. A. Ravogli, Cincinnati: I disagree with Dr. Connor on the advisability of having a school for the practitioner and another school for the specialist. The specialist must first be a thorough physician in order to become a specialist. Regarding the question of how much anatomy a man must know when he comes out of the college, I should say he must know anatomy from the bones to the skin, and from the feet up to the brain. The same is true of physiology. The members of the medical examining boards are perfectly right: We have no limitations. We may ask questions in every part of medicine and every candidate must answer these questions. We must put the state examinations on a practical basis and require the applicants to practice medicine to show us that they are able to make diagnoses and to practice medicine in order to relieve human suffering.

Dr. J. P. Scott, Hagerstown, Md.: I think that the projection of two classes of physicians would be destructive to medical education as such. My experience in registration and licensure in Maryland convinces me that there is an attempt to do too much educating and not enough education given. I find that the men of to-day occupying prominent places are men who received their education under the old methods. Dr. Connor received his a number of years ago. Education does not stop at the medical college, but the man receives there the ground work for his training.

Dr. H. A. Tomlinson, St. Peter, Minn.: I have read recently in connection with some excavations in Asyria of the finding of a tablet which contains some criticism of the practice of physicians over six thousand years ago which, in a general way, are very like those we hear to-day. There are two general classes of men; one which is satisfied with the acquisition of facts; another, which is not satisfied, except with the relation of facts to each other. It seems to me that as human nature has never yet been changed, the progress of medical education will continue to be a matter of evolution and of compromise.

Dr. Edward Jackson, Denver: There are forces of disintegration at work with strong tendencies to break up the medical profession into separate bodies. The most familiar instance is that in connection with the "optometrists," as they wish to be called. They will have a separate profession unless the medical profession as a whole becomes more familiar with that field. That is, I think, what Dr. Connor has in mind. It is only possible that the medical profession shall remain a united profession by carefully going over the whole subject of medicine, and deciding what ought to be common knowledge and what ought to be left to specialization.

Dr. L. Connor: Family practice is a lost art. I would do what I could to replace that family practice, to enable a man to meet satisfactorily the medical needs of a family from the cradle to the grave. The proposition I make would do that, with the aid of the specialist to be sought when a case passes beyond his knowledge and technic.

Report of the Committee to Draft a Medical Practice Act

Dr. Charles McIntire, Easton: The essential ideas to be kept in mind in framing a medical practice act are:

1. The law is for the protection of the people.

2. That it should provide but one executive body to supervise the law.

3. It should present an accurate definition of the practice of medicine.

4. It should specify the educational qualifications both general and professional for the applicant.

5. The board should have the power to test the applicant to see if he has made proper use of his educational

6. Liberal provision should be made for
all shades of opinion on the board, not of
Mixed boards do not weaken the efficiency of

7. The law should supervise those who have been licensed, revoke the licenses of those who cease to be safe practitioners and should have provisions enabling the board to seek out and to punish those who attempt to practice without legal right.

8. It is desirable that a different test should be provided for those who have been in practice than for those just in practice. A provision should be made whereby a license can be issued after an examination of the record and previous licensure in another state to an applicant without a formal examination of the applicant himself.

9. The members of the board being employed by the state to exercise police duty should be sufficiently remunerated by the state, independently of the license fees. These should be put into the state treasury as part of its income.

10. The principles on which the restrictions of the act are based should be stated with care and exactness but in such a manner as to give the board the greatest liberty in the execution of

them that it may be able to adapt itself to contingencies arising under a rearrangement of conditions.

11. In view of the apparent "political pull" of the osteopath, it may be well to have provisions for a limited license for those desiring to practice only in part.

Report of the Delegate to the Association of American Medical Colleges

Dr. Charles McIntire, Easton: Judging from the part of the meeting that I was able to attend it must have been one of the most successful and profitable of the meetings held under the auspices of the association. The representatives of the various colleges seemed to be sincere and in earnest, and when they differed they differed frankly. With this spirit there is a field for increasing usefulness on the part of the association. It needs the support of some of the stronger institutions, many of whom were formerly affiliated with it, although of more rigid requirements than those of the association. The requirements now are such that there should be the helping cooperation of all worthy medical schools. I hope the academy will accept the invitation already extended to send a delegate to the next meeting, which is to be held in Baltimore in March, 1910.

Report of the Committee to Arrange a Conference with Educators

Dr. Charles McIntire, Easton: Your committee recommends:

1. That the attention of the medical profession be called to the desirability of permitting medical schools to receive properly qualified students into advanced standing for the studies included in the first two years of the medical course, and that they be urged to secure a modification of the law leges to certify to the student's completion first two years independent of the length in a medical college and that this recommendation be sent especially to the state societies and the boards of medical examiners.

2. That the Council of Medical Education of the American Medical Association be requested to formulate the preliminary and graduation requirement of the medical course in terms of work done after due consultation with educators and others interested, as suggested by the paper of Dr. Jackson.

3. That the Academy records as its opinion that there is great danger to the college of arts in our country by the prevailing idea that it is not a place for earnest effort on the part of the student. The result of this delusion was shown time and time again in discussion similar to those conducted by your committee. Unless there is a change in the purpose of those pursuing the college course, there is danger of the impairment of the usefulness of the college for all but the idler.

4. That the Academy appoint a committee to formulate the requirements of admission preserving the principles underlying the present wording but adapting them to the educational procedure of the day.

(To be continued)

AMERICAN PEDIATRIC SOCIETY

Annual Meeting, held at Lenox, Mass., May 27-28, 1909

(Continued from page 1949, Vol. LII)

Danger to the New-Born from Gas Heaters

Dr. A. W. Saunders, St. Louis, called attention to the danger to the new-born of the ordinary gas heaters used in rooms and reported several cases of illness in children due to this cause.

DISCUSSION

Dr. Samuel S. Adams, Washington, reported a distressing calamity which occurred in Washington during the past winter in which the mother, wife and baby of a government clerk lost their lives from this cause, being suffocated by the carbon monoxid formed by what is known as "backfire." He felt that there was considerable danger in these gas heaters unless certified to by an inspector of meters.

Spasmodic Stenosis of the Esophagus Demonstrated by the X-Ray

Dr. L. E. LaFetra, New York, presented this paper, exhibiting *x*-ray photographs which showed perfectly the site of the stricture.

Dr. Thomas Morgan Rotch, Boston, reported one case occurring in the lower part of the esophagus before the day of the Roentgen ray when physicians were afraid to pass a sound. Postmortem examination showed a perforation of the sac.

Influenza—The Part It Plays in Hospital Infections; the Value of Cultures as a Means of Diagnosis; Influenza Carriers

Dr. L. Emmett Holt, New York: Three hundred and twelve cultures were made from one-hundred and ninety-eight persons. The bacilli of influenza persisted in the bronchial secretions and the observations showed an association of the influenza and pneumococcus. In many if not in most cases we have to deal with a mixed infection. It seems certain that there is such a clinical entity as influenza. Otitis media occurred in some cases as a complication and was most frequently due to the staphylococcus. The bronchi seemed to be the habitat of the bacillus.

DISCUSSION

Dr. T. M. Rotch, Boston, hoped that the investigations would lead to further work of this kind, as there was much to be learned about this disease which needed to be dealt with in exactly this way—with careful cultural examinations.

Dr. John Howland, New York, thought that there was no reason for calling the Pfeifer bacillus the influenza bacillus. He believed that it was not the cause of the clinical entity influenza. There was a large group of allied organisms some of which could cause influenza.

Dr. Henry Koplik, New York, some time ago took regular routine cultures from every child for diphtheria bacilli and found that of 300 children who presented normal throats 35 showed the diphtheria bacilli.

Dr. Isaac Abt, Chicago, referred to a hospital epidemic of diphtheria, the origin of which was difficult to trace until cultures had been taken, when one of the nurses was found to have a number of the bacilli in the throat.

Dr. S. McC. Hamill, Philadelphia, thought the relationship between the clinical manifestations and the association of the influenza bacillus could not be questioned.

Dr. T. S. Southworth, New York, thought that however much diversity of opinion might exist as to the exact organism responsible there was no question that there existed a clinical entity called influenza and that the condition was the source of epidemics in hospitals. He also thought there was no doubt about the infectiousness of the cases and advocated prompt isolation.

Dr. Miller, Atlantic City, referred to an epidemic in his hospital in which one of the residents had the bacilli in his throat for six or eight weeks, and later developed the disease.

Dr. L. E. LaFetra, New York, referred to the tendency of the aural surgeon to perform the mastoid operation too frequently in these cases in which fluctuation of the temperature was the only indication.

Dr. C. G. Kerley, New York, emphasized the point brought out by Dr. LaFetra and said he would not have his patients operated on unless there was other evidence of the disease aside from temperature.

Report of a Case of Long-Standing Empyema; Race as a Predisposing Factor in Empyema

Dr. Alfred Hand, Jr., Philadelphia: The case reported was that of a girl 3½ years old, weighing 8 pounds and 14 ounces; from the history it seemed probable that the empyema had existed for about 20 months. A study of the statistics of the children's hospital of Philadelphia for 10 years showed that the number of empyemas in white children is about 10 per cent. of that of the pneumonias; in colored children the empyemas are less than 1 per cent. of the pneumonias; but 3 in these cases unnecessary and that it causes deformity.

DISCUSSION

Dr. R. G. Freeman, New York, thought resection of the rib in these cases unnecessary and that it causes deformity of the chest.

Dr. Samuel S. Adams, Washington, referred to the difficulties of diagnosis in these cases and said that he could not recall a case of a typical empyema in a negro which accorded with Dr. Hand's experience.

Dr. Thomas Morgan Rotch, Boston, said that patients with non-tuberculous empyemas almost invariably recover, and that he still resected the rib in these operations and did not find that it caused much deformity.

Case of Atresia of the Duodenum

Dr. R. G. Freeman, New York, reviewed the literature of the subject of which with a case reported there are 63 cases. On the second day the child voided no urine, vomited and became jaundiced; on the fifth day there was frequent vomiting. On the sixth day, when first seen, there was no peristalsis and no bowel movements. On the ninth day vomiting became worse and on the tenth day the child died. Postmortem showed constriction two-thirds of the distance toward the pylorus. The stenosis of the duodenum was complete.

DISCUSSION

Dr. Thomas Morgan Rotch, Boston, referred to the comparative rarity of these cases, but said that cases of young babies with symptoms of stricture were not so infrequent. He believed in operative measures very strongly once the diagnosis had been made.

A Case of So-Called Congenital Malaria

Dr. Frank S. Meara, New York: The paper deals with a case of so-called congenital malaria and the question is discussed of whether there is such a thing as congenital malaria. The child was born in a locality where there were no mosquitoes. On the tenth day the child became sick and was brought in with a diagnosis of inguinal hernia. The spleen was filling one-half the abdominal cavity and the blood showed a number of parasites. It would seem that the child was infected or inoculated by the maternal blood in the parturition. It is fair to assume the possibility of separation of the placental membranes and inoculation. I thought this case represented such an inoculation.

(*To be continued*)

NEW HAMPSHIRE MEDICAL ASSOCIATION

Annual Meeting held at Concord, May 12-14, 1909

(Concluded from page 2015, Vol. LII)

Empyema

Dr. E. E. Lake, Hampstead, said that all authors agree on drainage and considers that his treatment will get the patient out quicker that any other method. He cited several cases in which he had made an incision between the seventh and eighth ribs and drawn off the pus, always with good results.

The Hygienic and Physical Exercise Treatment of Cardiac and Neurasthenic Cases

Dr. John W. Bowler, Hanover: I have been successful in cases of fatty heart, arrhythmia and gastric disturbances. Physical or external therapeutic treatment benefits all these patients and permanently cures most of them. Massage is the most generally applicable feature, as it can be given to patients who are too weak to begin with the exercises. We rarely find laborers or those whose occupation keeps them in the open air, necessitating some physical exertion, affected with neurasthenia.

DISCUSSION

Dr. John C. O'Connor, Manchester, does not believe in telling a nervous patient not to worry, as he will only go out and worry the more; the physician should endeavor to have the patient do something that will take his mind from himself.

Responsibility of the General Practitioner and the Specialist in the Prevention of Deafness

Dr. Francis P. Emerson, Boston, in speaking of the prevention of deafness and the progress of otology during the past few years particularly, stated that it had been largely along the line of prevention. It was found that in the progress of catarrhal deafness the relation of the nasopharynx to the middle ear was one of extreme importance. He exhibited a plate showing the condition after an operation for the removal of the middle turbinate. One ear might be impaired without the knowledge of the patient. A person whose hearing was affected was debarred from gaining a livelihood in many ways. It was common observation that a large percentage of deafness in adults dated back to childhood, therefore children should be looked after. The hearing function of adults was also often seriously impaired by the action of certain drugs. Syphilis and tuberculosis were accompanied by marked destruction of the membrana tympani.

DISCUSSION

Dr. L. W. Flanders, Dover, considered it a difficult matter to get the cooperation of the parents in treating these diseases. He believed that the time was coming when parents would be compelled to attend to the ears of their children in the same manner in which they were now obliged to have them vaccinated. There were children in any city schoolroom with running ears accompanied by a disagreeable odor which was an abomination. These children also became confirmed mouth breathers.

Dr. George A. Weaver, Warren, thought that physicians did not follow up acute febrile diseases thoroughly enough and long enough. The patients were not nourished properly with tonics which would indirectly reach these parts; and the same lack of supervision applied to the eliminations from the intestines and kidneys. Dr. Weaver also thought one of the causes of deafness might be from diving and swimming under water during the summer months.

Recent Advances in Neurology

Dr. Albert E. Browrigg, Nashua, emphasized the importance of nervous diseases, previously somewhat neglected, but now making rapid progress and attracting the attention of the profession. Diagnosis had become more exact and treatment more effective. Particularly in regard to insanity, institutions had become hospitals for study and treatment instead of asylums, and about 25 per cent. of the patients were discharged as recovered. Insanity and mental diseases were not interchangeable terms; insanity must be regarded as a legal state and not a definite disease. The various cults professing to cure functional nervous disease were wayward exploitations of the incomplete scientific findings of physicians engaged in mental research. This method was apt to discredit genuine scientific work; but it was attracting the popular mind to psychotherapy and away from the surgical field which had been holding its attention. In this state of the popular pulse it was well to review our knowledge of mental diseases, which was best done by running over a good classification of the psychoses, so as to brighten the mental picture of these diseases. Dr. Browrigg gave a rearranged Kraepelius classification as follows:

PSYCHOSES

1. Toxemias.—Curable psychoses depending on external toxins: Drug Psychoses; Infection; Thyrogenous.
2.—Exhaustion Psychoses.—Neurasthenia, curable by good nutrition even after from five to fifteen years duration.
3. Manic-Depressive.—Frequently hereditary, often curable.
4. Dementing.—Associated with organic disease of nerve centers, usually progressive: Dementia præcox, the patient may recover but is always left somewhat damaged and recurrence is probable; involution psychoses; organic brain lesions; paresis sclerosis; apoplexy, etc.
5. Paranoia.
6. Constitutional Instability.—Hysteria; epilepsy; fears; impulse.
7. Defectives.—Imbeciles; idiots.

DISCUSSION

Dr. T D. Luce, Portsmouth, had always considered the classification of nervous diseases into the general term of visional and organic a rather unfortunate one, a little too broad, and that in so-called visional disease a great many times there really existed some organic cause which was not recognized. He thought that probably physicians did not take the interest they should in this matter unless they specialized along this line. Probably most of the members of the society were capable of diagnosing and curing cases of appendicitis, but very few could intelligently treat and take the interest which they should in nervous diseases.

Tuberculous Hip-Joint Disease

Dr. N. W. McMurphy, Gilmanton: Although hip disease may occur late in life, it is essentially a disease of childhood, usually attacking children between the ages of 2 and 14. The reason for this is the frequency of tuberculosis in childhood, the active growth and immature nature of the joint constituents, the greater liability of children to fall, and the greater activity of youth, which favors the development of disease from slight injury. Tuberculous hip disease is seldom associated with pulmonary tuberculosis; indeed, it has been claimed by many authors that there is a direct antagonism between external and internal tuberculosis. The symptoms in the early stages are more or less obscure. The first stage is usually a slight limp; muscular rigidity occurs in the second stage, and often abscess. The third stage is characterized by shortening or dislocation of the joint. The natural tendency is toward recovery, with more or less deformity. One of the most important things in the treatment is to place the joint in a position of perfect rest. The traction splint is known as the American method; the traction brace is also used. The main obstacle to the cure of an inflamed joint is the friction and pressure of its surfaces. The German method is by means of the plaster bandage without crutches or high shoe. The short spica bandage is used as a routine treatment of hip disease.

Legal Liability of Physicians to Patients

Mr. Marshall D. Cobleigh, Lebanon, said in part: The general demand for a higher degree of preparatory work and training on the part of those who are to have the right to practice medicine than formerly obtained, may partially account for the recent verdicts that have been returned against physicians in this state for alleged errors. The law requires that you use "due care" in the treatment of your patient. Just what acts will come within the definition of "due care" is often difficult of determination. A fairly accurate statement of the rule is laid down by a writer in the following language: "Due care is a degree of care corresponding to the danger involved . . . the term is relative, and its application depends on the situation of the party, and the degree of care and vigilance which the circumstances reasonably impose. Where the danger is great, a high degree of care is necessary and failure to observe it is want of ordinary care." In law "due care," "reasonable care" and "ordinary care" are convertible terms. Negligence is the failure to do what an ordinarily prudent person would have done under the circumstances, or the doing of that which an ordinarily prudent person would not have done, in either case causing unintentional mischief to a third person. To charge a physician or surgeon with damages, on the ground of the unskillful treatment of his patient's case, it is never enough to show that he has not treated his patient in that mode, nor used those measures, which, in the opinion of others, even medical men, the case required; because such evidence tends to prove errors of judgment, for which the defendant is not responsible, as much as the want of reasonable care and skill, for which he may be responsible. Negligence is usually a matter of fact, not of law, yet there may be some cases in which it is a mixed question of law and fact. The law is always a question for the court, while the facts are found by the jury. In the absence of an express contract, a physician does not incur liability for failure to accomplish what the patient desires, unless the failure is due to negligence on the part of the physician. Another question may often arise, as to what extent a physician is justified in going, in performing an operation other and different from the one on which he started out, while the subject is under the influence of an anesthetic. In Pratt v. Davis, 7 L. R. A., 609, the court holds that an express or implied consent is necessary either by the person or by some one legally authorized to act for him. When a person receives a serious injury and the attending physician starts in on an operation with the knowledge and consent of the patient, and he finds that, in order to save life or in an attempt to save it, he must go farther, and that at the time, there are cases in which the courts have held that an implied consent is given to the physician to do what seems to be reasonable and necessary for the patient. If a person has been injured to the extent of rendering him unconscious, and his injuries were of such a nature as to require a prompt surgical operation, a physician called to attend him would be justified in applying such medical or surgical treatment as might reasonably be necessary for the preservation of his life and limb, and consent on the part of the injured one would be implied. The present tendency of the decisions is to extend and grant every reasonable right of latitude to a physician. The practical question that a physician is interested in is how to protect himself from law suits and vexatious litigation. In this connection I would suggest that, in cases of doubt, he have one or more physicians as witnesses while performing an operation, or even administering an anesthetic, if there is any danger of trouble therefrom. The rule for determining damages may be stated generally as follows: A party may recover damages for all actual pecuniary loss, damage or personal injury that may result from the wrongful act or omission of another, and which is the natural and probable result of the act or omission complained of, including a reasonable compensation for mental and physical suffering caused by the act or omission in question, and in some cases in which the act was wilful, then exemplary damages may be awarded, or damages which may be added by way of punishment for the malice displayed by the defendant.

Mr. Cobleigh closed his paper with the simple suggestion: 'Usually your own good judgment, carefully and honestly exercised, coupled with your fidelity to the needs of your patient, will, in the future as in the past, both prove a safe protection and prohibit such professional errors as will be cause for complaint on the part of those whom you may be called on to treat."

DISCUSSION

Dr. E. O. Crossman, Lisbon, said that he had always felt personally that there was little danger from malpractice cases if he did his best and kept away from surety companies. His feeling was that a surety company was a corporation and was pretty sure to invite trouble. He thought that there seemed to be a feverish public mental condition that was hard to understand, a condition of unrest, a battle on all sides for supremacy, regardless of justice and righteousness. Dr. Crossman said that, as there is no great hurry about a broken bone, that the family physician should be called in or some other physician in the neighborhood. It helped to strengthen things if the physician insisted on plenty of counsel before taking any positive step. It was hazardous business taking charge of broken bones, and the more we could divide the responsibility, the better.

Judge James W. Remick, Concord: Just now our courts are abounding in malpractice proceedings against members of your profession, and verdicts are following each other in swift and alarming succession against the most distinguished of your number, and for amounts on account of alleged imperfect repair in excess of the damages awarded for the entire injury against corporations in no more serious cases. Some of the convictions relate to treatment afforded without reward or hope of reward by way of charitable relief in charitable institutions, and in part on the alleged ground that the appliances of the institution were defective. The institution itself because of its charitable character is by the policy of law exempt from liability to its patients, but nevertheless the physician who from the same motives of charity donates his services to the hospital, is called on to pay large damages on account of results. The Supreme Court of this state, in setting aside a verdict in a leading malpractice case against one of your profession on account of treatment of a fracture, said: "The medical practitioner is necessarily surrounded by doubts and uncertainties and unavoidably exposed to errors and mistakes which may well furnish a satisfactory explanation of unfavorable results."

Hydrotherapy

Dr. John B. Macdonald, Concord: The oldest of all remedial measures has been until a late day the most neglected and often the most derided by the medical profession. As a profession, we are too apt to walk rather contentedly in a little lighted circle of prejudices and have to be reminded of what lies without us. Water, properly applied, is a most powerful therapeutic agent, and the results from its judicious usage are often little short of marvelous. In the wards of the New Hampshire State Hospital it has been demonstrated over and over again that a short cold bath with friction lowers the pulse rate markedly, improving its tone and increasing its tension. Cold applications excite and warm applications diminish irritability. No one who has not seen an excited acute maniac sleeping quietly for six or seven hours after a bath of from three to five minutes' duration, administered in the proper manner, can have any conception of the wondrous change effected. Sleep has been produced by this means when large doses of veronal, hyoscin and dormiol have been ineffective. Cold applications to fulfill their function should be of short duration and always accompanied by friction.

DISCUSSION

Dr. C. R. Walker, Concord, spoke of a case of sepsis in which the patient was made comfortable, restlessness diminished and quiet produced, by frequent reconnection with the double injection tube, thus irrigating the lower bowel with gallons of water.

Dr. F. N. Rogers, Manchester, mentioned a case of acute alcoholism which was relieved in one night by the use of hot baths.

Dr. H. W. N. Bennett, Manchester, reported the case of a young boy with a tuberculous leg who was not expected to live. The leg was swollen three times its natural size and there were many places through which the pus exuded. The boy was placed in a bath tub and immersed to the neck, staying there for a day and a night. In about eight days a hip joint amputation was performed and the boy recovered.

Dr. F. L. Gerald spoke of a young man with typhoid, whose spine was packed with ice, and it was three or four years before he recovered. So it seems to him that brains and common sense should back up this treatment with water as well as medicine.

Medicolegal

Burden of Proof and Other Requirements in Abortion Cases

The Supreme Court of Colorado says, in Fitch vs. People, where it affirms a conviction of procuring an abortion, that the law of that state has wisely provided that but one fact can justify the procuring of, or attempting to procure, a miscarriage; that is, that the act is done by or under the advice of a physician or surgeon, with intent to save the life of the woman, or to prevent serious and permanent bodily injury. It is not incumbent on the state to prove beyond a reasonable doubt, or at all, that "the use of the instrument was not necessary to save life," that it was not used "to prevent serious and permanent bodily injury," or "was not done under the advice of a physician or surgeon." The exceptions contained in the statute are matters of defense which must be made to appear by the defendant from the evidence.

The crime is complete when the instrument is used with the intention of procuring a miscarriage. Whether miscarriage does or does not follow is immaterial. An instruction offered in this case appeared to have been drawn on the theory that the woman might have miscarried by reason of her own acts in the taking of drugs or the use of an instrument, and that proof in support of such a theory would warrant the acquittal of the defendants; but such is not the law.

Again, the court says that the defendant offered no justification for having used an instrument with the intention of procuring a miscarriage, and no instruction on that theory should have been given. She denied that she had used any instrument that could have produced a miscarriage. She testified that she used only a speculum, and that that instrument was used only for the purpose of making an examination, and that its use could not have produced a miscarriage. But the only question presented to the jury by her plea of not guilty and all the testimony in the case was, Did she, or did she not, use an instrument with the intention of procuring a miscarriage? and not, Did she, or did she not, use an instrument with the intention of procuring a miscarriage, under the advice of a physician, to save life, or to prevent serious or permanent bodily injury? Therefore, even though the instructions apparently cast on her the burden of proving facts in justification, there was no error, because under the testimony no such question should have been submitted to the jury. The burden of proving the facts necessary to conviction devolves on the state; and if, from all the evidence, a reasonable doubt exists in the minds of the jurors as to the guilt of the accused, he must be acquitted. Yet, in a case where justification is not relied on as a defense, the defendant is not harmed by an instruction which casts on him the burden of proving facts in justification.

Admissible Expert and Other Evidence and Instructions in Malpractice Case Affected by Tubercular Conditions

The Court of Appeals of Maryland says, in Miller vs. Leib, an action brought by the latter-named party to recover for alleged negligence in treating her after she had fallen and fractured a femur while walking across her bedroom, that litigants in an action of law are entitled to the judgment of the jury on all of the facts of the case. Therefore expert testimony on hypothetical questions, which substitutes inferences for facts, ought always to be received with caution. It is of the highest importance in admitting such evidence that care be taken to see that the hypothetical question put to the expert is not only based on facts already in evidence, but that it is so framed as to fairly represent those facts, and not give the situation a false color by the method of their statement. In some jurisdictions such questions are required to cover all undisputed facts material to the subject involved, but it has been held by this court in several cases that it is not always necessary in framing a hypothetical question to be put to a medical expert to refer to all of the evidence on the subject. It has, however, since then been held by this court that it is faulty in framing a hypothetical question for a medical expert to give a wrong coloring to facts by isolating a particular fact and withholding other facts which bear directly on the ones so segregated.

In this case the hypothetical questions, by means of which the plaintiff's counsel elicited the expert testimony of a physician over the defendant's objection, were predicated on the assumption that at the time of the accident the plaintiff was over 61 years old and slight in build, but were silent as to her general health at the time, and especially failed to mention or take into consideration any tubercular trouble on her part. For example one question was: "Suppose a lady, 61 years of age, rather slight, falls and sustains a fracture of the neck of the femur; suppose it were an impacted fracture, what would be the treatment which would be required on the part of a reasonably skillful physician using reasonable care?" Another question was: "How long usually would reasonable care require that the Hamilton and Long (splint) or the plaster cast and the mild extension should remain before the physician took it off to examine the condition of the fracture?" Still another question was: "Suppose a lady 61 years of age fell and sustained an intracapsular fracture of the neck of the femur, and called in her regular physician, how often would reasonable care require that he should see his patient after his first visit?" The court thinks that the defendant's exceptions to these and all similarly defective questions should have been sustained.

Another exception raised the question of the propriety of permitting a witness to testify that the defendant told her over the telephone at 1 o'clock of the day of the accident that he would come out to see the plaintiff, though the witness had testified that she did not recognize the voice speaking over the phone to her as that of the defendant, as she did not then know him. But as the communication put in evidence in this case came over the telephone in response to a request sent to the defendant's office, and purported to be from him, and was not strictly personal or medical in its nature, but consisted merely of an alleged statement on the physician's part that he was unable to respond at once to a request to visit the patient, accompanied with a promise to do so after he had closed his office, the court thinks it was properly permitted to go to the jury to be considered by them in connection with his testimony that he got there as soon as he could after receiving the telephone request to come, which, according to his account, reached him about 6 or 7 o'clock in the evening.

The plaintiff requested that the jury be instructed that if they found that she sustained a fracture of her femur, and that the defendant as a physician and surgeon undertook to treat her and did not exercise reasonable care and skill in ascertaining from what she was suffering, or in his treatment of her case, and that, by reason of such failure on his part, she suffered pain and lost the use of her limb, she was entitled to a verdict in her favor. No reference was made to the evidence in the case tending to show a tuberculous condition of the plaintiff at and after the time of the accident, and the effect of such a condition on the propriety of the treatment of the plaintiff's case adopted by the defendant. The instruction was given in connection with one by which, as modified by the judge, the jury were directed not to allow any damages on account of the treatment given to her by the defendant for tuberculosis, nor for such delay in his treatment of her hip as resulted from his diagnosis of tuberculosis in her. The court finds no reversible error in the granting of the two instructions in connection, thus limiting the first by the proviso contained in the other.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

June 19

1 Problems Connected with Tuberculosis. H. G. Piffard, New York.
2 *Presence of the Tubercle Bacillus in the Circulating Blood. R. C. Rosenberger, Philadelphia.
3 *Indications for Removal of the Faucial Tonsil and Suggestions as to its Technic. G. Hudson-Makuen, Philadelphia.
4 *Human and Bovine Tubercle Bacilli. G. B. Sweeny, Pittsburg. Pa.
5 *Expeditious Method for Submucous Resection of the Triangular Cartilage of the Nose. W. P. Porcher, Charleston, S. C.
6 *Irrigation Treatment of Puerperal Sepsis. H. Well, New York.
7 Practical Lessons from a Study of 200 Cases of Weakened Feet. J. M. Berry, Troy.
8 Malignant Endocarditis without Fever. E. E. Cornwall, Brooklyn.

2. **Tubercle Bacillus in Blood.**—In 300 cases of tuberculosis, Rosenberger is more than ever convinced that tuberculosis is a bacteriemia, and that the tubercle bacillus can be demonstrated in the blood in every case in which there is an active tuberculous process. He also believes that the bacillus is present in the blood in a certain percentage of apparently healthy individuals at some period and perhaps may be there for years in an attenuated form. When the general resistance is lowered or the resistance in some viscus or anatomic structure is lessened, the bacillus becomes pathogenic, at once lodges at this point, and brings about the disease, tuberculosis. Rosenberger also believes that the bacillus is transmitted from mother to child through the placenta, as the examination of a large number of specimens of blood from umbilical cords show these same acid-fast organisms as obtained from the mother's blood.

3. A similar article by this author appears in THE JOURNAL, June 19, 1909, p. 1988.

4. **Human and Bovine Tubercle Bacilli.**—During the past year one hundred and fifty additional cases successfully treated with antituberculous lymph by Sweeney and other physicians in various parts of the United States have been carefully studied. From the beginning of his work in immunizing cattle, Sweeney has made close observations on the relative merits of human and bovine tubercle bacilli as immunizing agents. To render these observations more reliable he has during the past five years kept the immunized cattle in two district herds; those immunized through the use of bovine tubercle bacilli being cared for on a farm remote from the cattle which had been treated with human tubercle bacilli. The lymph derived from the first herd was designated AT. L. No. 1, that from the second AT. L. No. 2. That there was a marked difference between the action of the two lymphs when administered to tuberculous patients was at once apparent. Even more; in most cases where AT. L. No. 1 improved the patient's condition a change to AT. L. No. 2 would be followed by untoward symptoms. In exceptional cases a change from one lymph to the other, at definite intervals, would be followed by improvement for a time, when it was found advantageous to return to the first. From the evidence which has been collected on the subject, Sweeney believes that we are warranted in reaching the following conclusions:

1. Human and bovine tubercle bacilli are distinctly different in most of their characteristics.
2. The human subject may become the host for either form of tuberculous infection, human or bovine. Likewise the bovine may be inoculated in the same way and under like conditions.
3. Tuberculous infection of the respiratory tract will usually be found to be due to bacilli of the human type, while those of the bones, joints, and lymphatics are likely to be due to bacilli of the bovine type.

From clinical study of patients treated during the past five years Sweeney concludes that an antitoxic vaccine or lymph may be derived from the bovine which has been previously immunized through the administration of attenuated doses of tubercle bacilli. Also that this immunity may be accomplished through the use of either human or bovine tubercle bacilli in the emulsion which is used for immunizing purposes.

5. **Submucous Resection of Triangular Cartilage of Nose.**—Porcher describes his method in connection with a case report, as follows: With a rather long Curtis electric trephine two large cones of cartilage were drilled away, the trephine passing through the mucous membrane in the rear. The projecting ends of the cartilage having been removed the septum resumed its erect position. The mucous membrane was allowed to fall back into position, and a compress of cotton was used to hold it so until union took place, which was by first intention. An excellent feature of this operation is said to be that perforation rarely occurs. Unless the angle of deflection of the septum is extremely acute, it is almost impossible to produce a perforation. In a straight septum the trephine would have to be held at right angles to the partition to penetrate through it, and therefore this accident would only be likely to happen in proportion to the acuteness of the angle or the amount of deflection present.

6. **Irrigation Treatment of Puerperal Sepsis.**—The treatment employed by Weil consists of intrauterine irrigations given with sufficient frequency to keep the uterine cavity empty of all lochia. This would ordinarily involve considerable disturbance and pain to the patient, besides necessitating the almost constant presence of the attending physician. To avoid this he employs a technic by which the irrigations may safely be entrusted to any intelligent attendant; they are painless, and do not disturb the patient any more than is necessary to put her on and off the bed pan. With the patient in the dorsal position on a bed or table, he inserts two soft rubber tubes into the uterus, one well up to the fundus, the other beyond the internal os. The tubes are held in place by a light vaginal pack. Both tubes project a few inches beyond the vulva. To irrigate he attaches a fountain syringe to the longer tube, the other tube merely providing for a return flow. In this manner the irrigations are readily given on a bed pan or Kelly pad, and no particular skill is required. This treatment involves much work both day and night and is not adapted to the milder infections, being essentially an heroic procedure, it finds its use only in serious cases.

Boston Medical and Surgical Journal

June 10

9 *Comparison of the Guaiac and Benzidin Tests for Invisible Hemorrhage in Diseases of the Digestive Organs. F. W. White, Boston.
10 *Relation of the Spleen to Resistance Against Infection. J. C. Hubbard, Boston.
11 Medical Inspection of Schools in Boston; Present Limitations and Future Possibilities. W. P. Coues, Boston.

9. **Comparison of the Guaiac and Benzidin Tests for Invisible Hemorrhage.**—Only those cases are included in White's report in which the the diagnosis was practically certain from long clinical observation, or as the result of operation or autopsy. Two or three were excluded because of reasonable doubt about the use of a meat and fish-free diet. The Weber guaiac test with hydrogen peroxid was used, and the Schlesinger and Holst's benzidin test without shaking the benzidin peroxid mixture after adding the material to be examined. Twenty examinations of feces from healthy persons eating meat or fish with benzidin. Thirty-nine examinations of feces of 15 healthy once or twice a day, gave 4 positive results with guaiac and 20

persons on a diet free from meat, fish or their juices for three days gave an invariably negative result with both benzidin and guaiac tests. Ten feces from two cases of esophageal neurosis, spasm of the cardia, gave only negative results. Three feces from one case of cancer of the esophagus gave only positive results.

The stomach cases are divided into three classes: Those in which examination of the feces showed no bleeding, temporary bleeding or constant bleeding.

No Bleeding.—In this class are 62 cases with invariably negative feces when the proper precautions of the test were observed. These consist of functional diseases of the stomach, such as hyperesthesia, hyperacidity, achylia and other neuroses, chronic gastric catarrh and gastroptosis. Seventy-eight examinations of gastric contents in these cases gave 13 positive results with benzidin and 8 positive with guaiac. These results are undoubtedly due to minute artificial hemorrhage from the use of the stomach tube and show the small value of a positive result in gastric contents in comparison with the same in feces. *Temporary Bleeding.*—In this class are 4 cases of acute gastric ulcer, 6 cases of chronic or recurrent gastric ulcer, and 2 cases of chronic duodenal ulcer. Sixteen examinations of the feces were made in the 4 cases of acute ulcer with 7 positive and 9 negative results with each test. The feces usually become negative for blood in about ten days after hospital treatment was begun in cases of acute gastric ulcer with hematemesis. Twenty-five examinations of feces in 8 cases of chronic or recurrent peptic ulcer gave 15 positive and 10 negative results with benzidin and 12 positive and 13 negative results with guaiac. Here the somewhat greater delicacy of the benzidin test was distinctly useful in diagnosis. In one case in which chronic gastric ulcer was suspected (and proved later at operation) several positive results were obtained in feces and stomach contents with the benzidin test, while only negative results were found with the guaiac. In 5 cases of benign pyloric stenosis, 10 gastric contents were examined, and 3 positive and 7 negative results were obtained with each test. The positive results were due to meat or fish remaining in the stomach from previous meals. *Constant Bleeding.*—In this class there is only cancer to consider among chronic affections. In 6 cases of cancer of the stomach, 14 feces and 13 stomach contents were examined and all found positive with both tests. Two of these cases were fairly advanced with palpable tumor, 4 were doubtful, latent cases in which the constant presence of occult blood was very valuable in diagnosis. Positive results probably are obtained as soon as ulceration occurs, which is usually early in gastrointestinal cancer. In 5 cases consisting of neuroses, chronic catarrh, adhesions, diverticulitis, all feces, 10 in number, were negative with both tests. In 2 cases of ulcerative colitis, 2 stools were positive, and 2 negative with each test. In 1 case of cancer of the jejunum, 20 inches from the pylorus, all 3 stools examined were positive with both tests. Curiously enough, in cancer of the bowel in general, positive results are less constant and frequent than in gastric cancer, and a negative test has less value, therefore, in ruling it out. In 8 cases comprising gallstones, syphilis and cyst, all stools examined were negative with both tests. In 1 case of cirrhosis, 2 stools were positive and 1 negative with both tests. Positive results in cirrhosis have little or no diagnostic value and may be misleading.

10. **Relation of Spleen to Resistance Against Infection.**—Many of the books on pathology and physiology state in a few words that one of the functions of the spleen is to aid in withstanding infection. No proofs, however, of this are cited. Some authors, again, make no mention of this function. To determine, if possible, the truth of this statement, the following experiments were undertaken by Hubbard. The plan of the experiment was as follows: A normal guinea pig was splenectomized under ether. When the animal had recovered from the operation, after an interval of several days it was given an injection of staphylococcus pyogenes aureus. At the same time a control was injected. The attempt was made to regulate the dose so that it would not be large enough to kill a normal pig. A record was kept at first of the weights and temperatures, but as neither of them appeared to vary in any definite manner, it was soon given up. When an animal died (either the experimental animal or a control) it was autopsied, and in addition to the macroscopic appearances, cultures were taken from the liver and heart's blood in such a manner as to avoid outside infection. The other animal of the pair was usually killed at the same time and autopsied in a similar manner. The two splenectomized pigs died of general infection, the controls surviving. One splenectomized pig died of general infection, there being no control. A splenectomized pig died of a local infection, not at the point of inoculation, some time after its control died of a general infection. A control died of a general infection, while the splenectomized pig lived until killed. Both the splenectomized pig and the control lived until killed. From the perusal of these few experiments it appears that there is no marked difference in the ability of splenectomized and normal guinea-pigs to withstand infection artifically produced by the *Staphylococcus pyogenes aureus.*

Medical Record, New York

June 19

12 *Conquest of the Tropics for the White Race. W. C. Gorgas, Ancon, Canal Zone.
13 *Caisson Disease. M. A. Starr, New York.
14 Value of Cystoscopy in Gynecology. A. Stein, New York.
15 *Amount of Pepsin in Various Disorders of the Stomach. M. Einhorn and G. L. La Porte, New York.
16 Calculus in the Lower Segment of the Ureter in the Female. A. E. Isaacs, New York.
17 Etiology of Carcinoma. A. K. Sallom, Kousba, Mt. Lebanon, Syria.

12. Published in THE JOURNAL, A. M. A., June 19.

13. **Caisson Disease.**—An analysis by Starr of about 300 cases which have occurred in recent years shows the following list of symptoms occurring in the order of frequency: Myalgia, or severe pain in the muscles, and especially in the muscles of the back, but also in the muscles of the extremities, seems to be a uniform accompaniment of the disease. It occurred in 105 of the 310 cases analyzed. The second most frequent symptom is an affection of the ears, producing symptoms comparable to Ménière's disease; vertigo, vomiting, intense prostration, tinnitus aurium, and deafness. These symptoms occurred in 68 cases.

Pain in the joints, classed together as arthralgias, occurred in 60 cases, in many of them being attended also by myalgia. It seems probable that in these cases there has been a sudden effusion of fluid into the joints, stretching the capsules of the joints without any acute inflammatory condition, and in proof of this the frequency of swelling without heat or redness can be cited. In 26 cases acute paraplegia developed. Monoplegia was observed in 17 cases, cerebral in type rather than spinal, and undoubtedly due to localized areas of softening, or to malnutrition in the cortex produced by bubbles of air in the veins of the brain. Symptoms of intense vertigo of cerebral nature, undoubtedly due to emboli in the cerebellum, were noted in 14 cases. These resembled in many respects the symptoms of Ménière's disease, already mentioned, but were followed by paralysis of some of the cranial nerves, indicating that the origin of the symptoms was not in the ear. The seventh most frequent set of symptoms were classed together as asphyxia, the patients showing all the signs of faintness with irregular heart action; 13 patients suffered from this symptom.

Aphasia has been observed in a number of the cases. Recoveries have also been recorded in many cases in which the symptoms were largely cerebral. Thus in cases presenting the phenomena of acute transitory mania, in other cases presenting symptoms of hemiplegia, in other cases presenting the symptoms of various types of aphasia, temporary deafness, and temporary blindness, as well as in those very numerous cases in which peripheral disturbances of the auditory nerve had been produced by lesions of the inner or middle ear, recoveries have been recorded. It is evident, therefore, that in the cases of apoplexy or of paraplegia occurring in connection with caisson disease, the prognosis is very different from that in cases occurring under other circumstances. It is well known that the important element in the treatment, is to replace the individual as soon as possible after the onset of the symptoms, in a chamber containing compressed air and to keep him under two or three atmospheric pressures for several hours reducing this pressure very gradually. If this can not be done, the most successful treatment appears to be to stimulate the circulation by strychnin and to increase the arterial tension by ergot.

15. **Pepsin in Various Stomach Lesions.**—Einhorn and La Porte examined 110 cases. Among these were 48 cases of hyperchlorhydria, 4 cases of subacidity; 21 cases of absence of free hydrochloric acid, and 37 cases of normal acidity. They found that there is no strict relation between the amount of pepsin and the acidity in the group of hyperchlorhydria and normal acidity. In fifteen cases of achylia the ricin deposit was cleared up entirely only once, and in five cases of cancer of the stomach without free hydrochloric acid it also occurred only once. In one case of achylia the amount of pepsin was fairly considerable, as the precipitate disappeared in seven minutes. Among the cases of hyperacidity only seven showed a correspondingly increased amount of pepsin. In all other cases of hyperacidity the amount of pepsin did not exceed the normal limits.

Lancet-Clinic, Cincinnati

June 12

18 Historical Review of the Development of the Cataract Operation L. Stricker, Cincinnati.
19 The Smith Operation for Cataract. D. W. Greene, Dayton, O.
20 The Diagnostic Significance of Liver Palpation. H. W. Bettmann, Cincinnati.

Northwestern Lancet, Minneapolis

May 15

21 *Evolution of the Superman. V. C. Vaughan, Ann Arbor, Mich.

21. **Evolution of the Superman.**—Vaughan traces the influence of disease, and particularly of malaria and epidemics, on the various races, and concludes that medical investigation into the nature and causation of disease must be encouraged. Our medical schools must be centers, not only for the dissemination of knowledge, but for its acquisition. Original research along the lines of preventive medicine, bacteriology, and pathology must be enlarged and more generously supported, and the attitude of the medical profession toward the public and that of the public toward the profession must be radically changed. Up to the present the medical student has been trained largely, if not wholly, with reference to the good of the individual patient. This training must be modified, and the coming medical man must be developed largely with a view to his relation to the public. His principal function must be to prevent rather than to cure disease. The physician's duties are to become more and more largely official, in the sense that his services are to be rendered to the community, and not exclusively to the individual. Vaughan imagines that the time will come when people will go to the physician to find out whether they are really well or not, and not wait until they know they are ill. They will go for examination and advice, rather than for treatment. Ultimately, every one will be examined twice or oftener each year, and no two consecutive examinations will be made by the same physician. A record will be kept of each examination, and when the individual ultimately dies, a careful autopsy will be made on every person. At first these things will be vountarily done by intelligent people, and later, others seeing its advantages, will adopt the method. Finally, it will be compulsory with all, and will result in great good to the whole. The value of a custom of this kind in case of many of the infectious diseases, both to the individual and to the public, is evident. Take tuberculosis as an illustration: The physician is now so equipped in the recognition of this disease that he can detect it in its earliest stages when it is amenable to proper treatment, which is of benefit to the patient himself, and before the victim becomes a possible source of danger to others, and this is a service to the public. By means of careful physical examination, supplemented with the ocular and cutaneous reactions, slight tuberculous changes in the body may be detected with certainty, and still most people with this disease wait until cure is impossible. If people were frequently examined we should not be cursed with the venereal diseases as we are. The young man who goes wrong would be sent to the hospital or other place of observation, and detained until he ceased to be a source of contagion. Mental diseases also need this kind of treatment. The man or woman who is addicted to alcoholism would be placed where he or she could not gratify a depraved appetite and continue in the bad way. If such a system should be adopted life would be prolonged, disease would decrease, our insane asylums would not be so crowded, and the race would be far on the way to the development of the superman.

Journal of Ophthalmology and Oto-Laryngology, Chicago

May

22 *Surgical Treatment of Optic Neuritis. W. O. Nance, Chicago.
23 Four Cases of Hysterical Blepharospasm. N. Remmen, Chicago.
24 Two Cases of Nasal Calculus. S. A. Freidberg, Chicago.

22. **Optic Neuritis.**—From a study of the literature, Nance comes to the following conclusions in relation to operative measures for the relief of optic neuritis:

1. Operative procedures for the relief of papilledema in suitable cases offer by far a better prognosis than treatment by drugs.
2. Free opening of the skull and dura, in cases in which the tumor can not be localized, is the operation of choice.
3. The operation to be of benefit must be performed early before secondary and permanent changes occur in the nerve and other ocular structures. The time when vision begins to fail may be tentatively adopted as the time to operate.
4. Operative measures involving the opening of the skull and dura in papilledema dependent on anemia, toxemia, albuminuria, sinus disease, etc., are contraindicated; hence the necessity of thorough examination of the blood and urine, and an investigation of neighboring cavities, before advising such radical procedures.
5. In cases of tumors implicating the basal tracts, decompression can not prevent loss of sight.

Detroit Medical Journal

May

25 Treatment of Diabetes Mellitus. L. A. Levison, Toledo, Ohio.
26 *Clinical Experiences in Tuberculosis of the Bladder. W. Karo, Berlin, Germany.

26. Abstracted in The Journal, Oct. 3, 1908, p. 1538, and published in *Viriginia Medical Semi-Monthly*, Oct. 9, 1908, *Old Dominion Jour. Med. and Surgery*, October, 1908, and *Medical Fortnightly*, Oct. 9, 1908.

Annals of Otology, Rhinology and Laryngology, St. Louis

March

27 *[illegible] nsillitis. G. B. Wood, Philadelphia.
28 * [illegible] Results of the so-called Heath Oper- [illegible] Philadelphia.
29 *Anatomy, Pathology and Surgical Treatment of the Faucial Tonsil. J. C. Beck, Chicago.
30 Experiences with the Killian Frontal-Sinus Operation. Dr. von Eicken, Freiburg i. Breisgau, Germany.
31 Experiences in the Endonasal Radical Operation on the Sphenoid Cavity and Posterior Ethmoid Labyrinth. M. Hajek, Vienna.
32 Mastoid Cases which Came under my Observation during the Past Year. F. Allport, Chicago.
33 Vincent's Angina. C. W. Richardson, Washington, D. C.
34 Bronchoscopy and Esophagoscopy—Technic, Utility and Dangers. E. F. Ingals, Chicago.
35 Indications for Radical Mastoid Operation Based on Pathologic Lesions. S. J. Kopetzky, New York.
36 Sinus Disease. C. F. Theisen, Albany, N. Y.
37 Anatomy and Diseases of the Styloid Epiphysis. J. J. Kyle, Indianapolis.
38 Double Mastoiditis Followed by Left Sigmoid Sinus and Jugular Vein Thrombosis. Operation. Recovery. J. F. Barnhill, Indianapolis.
39 Obstructed Nasal Respiration and its Relation to Dental Deformities. J. H. Allen, Portland, Me.
40 The Acoustic Function of the Ear. E. de W. Wales, Indianapolis.
41 Function of the Middle Ear Muscles, resulting in Modification of the Theory of Hearing. E. de W. Wales, Indianapolis.
42 *Experimental Nystagmus and an Application of its Principles to the Diagnosis of Lesions of the Inner Ear and Cerebellum. W. B. Chamberlin, Cleveland, Ohio.
43 *Vaccine Therapy in Otology and Rhinolaryngology. R. Levy, Denver.
44 Operation for Malignant Growths of the Tonsil. K. Vohsen, Frankfort on the Main, Germany.
45 Phonasthenia. T. S. Flatau, Berlin, Germany.

27. **Pathology of Acute Tonsillitis.**—Wood, in an article well illustrated with histologic specimens, says that from a pathologic standpoint we can recognize three types of acute tonsillitis: A proliferative form, with increase in nearly all the cellular elements of the tonsil; a lacunar form, in which the cryptal epithelium shows the most severe lesions; and a suppurative form, in which abscesses develop within the germinating follicles. These different forms are generally associated together in a given case, but any one of them may be the predominating lesion. Certainly in all cases we have a proliferation of the cellular elements, and very early in the process there is associated some diapedesis of multinuclear leucocytes through the cryptal epithelium and possibly some necrosis of the epithelial cells. If necrosis of the cells is great enough to cause a break in the epithelium, the paren-

chyma of the organ is open to attack, and the bacteria gaining access to the tonsillar tissue probably find lodgment in the follicles and there cause intrafollicular abscesses.

28. Published in the *Medical Record*, March 20, 1909.

29. **The Tonsil.**—Beck gives a macroscopic and microscopic study of a radically enucleated tonsil, for chronic lacunar disease. He discusses chronic lacunar inflammation, hyperplastic tonsils, hyperkeratosis of the tonsil, tuberculosis, luetic tonsil, actinomycosis, and the various forms of malignant disease. He advocates and describes in detail the radical enucleation operation. The article is illustrated.

42. **Experimental Nystagmus.**—Chamberlin draws the following conclusions: The semicircular canals and the cerebellum play a joint part in the perception of equilibrium. That other factors participate strongly, is shown by the return to the normal after loss of stimuli from these organs. Disturbances in the function of vestibule and cerebellum cause disturbances of equilibrium and also produce a nystagmus having certain definite characteristics.

43. **Vaccine Therapy in Otology.**—Levy's observation and experiences lead him to advise that in all obstinate cases in which conservative methods, including so-called conservative operations, have been adopted, the patients should receive the benefit of vaccine treatment. This refers to all ear cases, chronic or acute, with or without mastoid involvement, and all accessory sinus cases.

Southern California Practitioner, Los Angeles

May

46 Hospital Operative Care. R. Brown, Santa Barbara, Cal.
47 Lithemia. J. B. Cook, Los Angeles.
48 *The Increased Longevity of Life-Insurance Policy Holders. B. Foster, St. Paul, Minn.

48. Commented on editorially in THE JOURNAL, May 1, 1909, p. 1428.

Journal South Carolina Medical Association, Greenville

May

49 *Educational Plans and Methods to Improve Sanitary Conditions. S. C. Baker, Sumter.
50 Ununited Fractures. S. McGuire, Richmond, Va.
51 Peripheral Operation for Tic Douloureux. A. E. Baker, Charleston.
52 *Up-Bringing of American Children a Factor in the Comparative Rarity of Psychasthenia Among Them. T. A. Williams, Washington, D. C.

49. Abstracted in THE JOURNAL, June 5, 1909, p. 1870.

52. Published in the *Virginia Medical Semi-Monthly*, April 23, 1909.

University of Pennsylvania Medical Bulletin, Philadelphia

May

53 *Acute Pancreatitis. J. H. Musser, Philadelphia.
54 *Ulcer of the Stomach. J. H. Musser, Philadelphia.
55 *Value of Salomon Test in Diagnosis of Carcinoma of Stomach. E. H. Goodman, Philadelphia.
56 *Aortic Insufficiency Simulating Aneurism and a Review of the Various Opinions on the Cause of the Flint Murmur. G. M. Piersol, Philadelphia.
57 Cutaneous Reaction of Link in Typhoid Fever. E. H. Goodman and C. C. Sutter, Philadelphia.
58 Modern Methods of Diagnosis and Treatment of Diseases of Stomach. J. H. Musser, Philadelphia.
59 Metabolic Studies in a Case of Postoperative Tetany. J. H. Musser and E. H. Goodman, Philadelphia.
60 Carcinoma of Stomach Presenting Some Unusual Features. J. H. Musser and E. H. Goodman, Philadelphia.

53. **Acute Pancreatitis.**—Musser analyzes 9 cases that have come under his observation and which show that acute hemorrhagic pancreatitis may occur in the course of typhoid fever and cause death, and that an unfortunate association of symptoms of renal calculus and pancreatitis may occur, confusing thereby the diagnosis. The diagnosis must be based on (1) previous history; (2) acute symptoms and shock (in 8 cases); (3) inflammation behind stomach, rigidity of left rectus, epigastric pain; vomiting occurred in all cases; (4) epigastric tumor with dull tympanitic note (7 cases); (5) pain in back, especially costoiliac space on deep pressure; (6) diarrhea (7 cases; in 2 cases moderately obstinate constipation); (7) acute anemia of secondary type with leucocytosis (remarkable in 4 instances); (8) marked increase in leucocytes (8 cases), increase of polymorphonuclears where differential count was made; (9) temperature usually normal throughout, except with coincident infection; (10) dyspnea (8 cases) seems a very striking symptom; (11) pulse increases in frequency, but not to extraordinary degree in all instances; (12) no report on stools; (13) Cammidge's test positive in 2 out of 4 trials; (14) in 3 instances very marked, general board-like rigidity of abdominal wall; (15) neither age nor sex were factors in diagnosis. Out of 9 patients 5 recovered, 4 died. In 2 recovery was spontaneous, in 3 with operation.

54. **Ulcer of the Stomach.**—Musser reviews 6 cases of gastric ulcer, recently under his care, for which operation was done. From a fairly large experience he considers the diagnosis of gastric ulcer very difficult to make. The more he sees of surgery, the more he feels that we must go very slowly with regard to advising abdominal section. He feels this particularly true, unless he has the opportunity also of selecting the surgeon. Under certain circumstances the operation is extremely grave. As clinicians we should consider carefully, and while the patient is under observation a fair period of time, before coming to a conclusion as to surgical interference in ulcer of the stomach, Musser still feels that the disease is not a common one, notwithstanding the statistics of English surgeons and some surgeons in this country. There are circumstances quite abundant when medical measures can bring about relief and perhaps cure in a certain proportion of cases —namely acute ones. Finally, he repeats, the picture of gastric ulcer, especially of chronic ulcer, must be that of a non-febrile gastric disorder, attended by remissions, with symptoms of hypochlorhydria or hyperacidity, and of temporary or permanent pyloric obstruction, and of fairly constant findings of blood and of excess of hydrochloric acid.

55. **The Salomon Test in Gastric Carcinoma.**—Goodman draws the following conclusions:

1. Normal cases and cases other than gastric carcinoma are sometimes accompanied by more than 21 mg. nitrogen per 100 c.c. wash water.
2. Not all carcinomatous cases give a positive reaction, due probably to absence of ulceration.
3. The test is not pathognomonic, and can be regarded only as of doubtful assistance in conjunction with other features of the case.
4. The amount of phosphates in the stomach washings from a non-carcinomatous case is below 10 mg. per 100 c.c.
5. The percentage of phosphates in the washings of cases of carcinoma of the stomach usually exceeds 10 mg.

56. **Aortic Insufficiency.**—In the report of two cases of aortic insufficiency simulating aneurism, Piersol reviews the various opinions on the causes of the Flint murmur, which is still in doubt. He cites the opinion of Guiteras, that these murmurs result from what is essentially a mitral obstruction produced by the mitral valves being actively driven against the auricular blood current by the force of the general arterial tension operating through the regurgitant column of blood from the aorta, which condition is most likely to obtain when the posterior aortic leaflet is the chief seat of disease. Guiteras differs with Flint in believing that the leaflets are forcibly driven against the stream, not merely floated upward to vibrate between two opposing currents. Piersol considers that, as emphasized by Thayer, the explanation offered by Guiteras appears on the whole to be the most reasonable and satisfactory one to adopt.

Journal Missouri State Medical Association, St. Louis

May

61 Otitis Media. T. A. Coffelt, Springfield.
62 Pneumonia, Its Causes and Treatment. J. S. Newlon, Butler.
63 Capital Punishment a Trait of Barbarism. T. F. Lockwood, Butler.
64 Malpractice from the Doctor's Standpoint. J. Ashley, Bloomfield.
65 Therapeutics, and Its Relation to the Practitioner. G. W. Whiteley, Albany, Mo.
66 Personal Experience in Gunshot Wounds. J. D. Seba, Bland.

Kansas City Medical Index-Lancet

May

67 Incipient Insanity, its Diagnosis and Treatment. J. Punton, Kansas City, Mo.
68 Chronic Suppuration of the Middle Ear. H. H. Look, Kansas City, Mo.

Western Medical Review, Omaha, Neb.

May

69 The Anesthesia *of To-day. A. F. Burkard,* Omaha.
70 Cystoscopy and Ureteral Catheterization. R. R. Hollister, Omaha.

71 Medical Science Sufficiently Broad to Embrace Psychologic Law is the Basic Principle in the Treatment of Psychic, as well as of Physical, Disease. A. E. Clough, Madison, S. D.
72 Discriminative Therapeutics. J. Burke, Manitowoc, Wis.
73 Disinfection. J. L. Wicks, Evanston, Wyo.

Vermont Medical Monthly, Burlington

May

74 *Early Diagnosis of Malignant Diseases of the Breast and of the Uterus with Treatment, Including Coley Serum. S. E. Maynard, Burlington.
75 Infectious Diseases. S. W. Hammond, Rutland.
76 Dementia Præcox. F. E. Farmer, St. Johnsbury.
77 Postpartum Hemorrhage. L. J. Pons, Roxbury, Conn.

74. **Malignant Diseases of the Breast.**—Maynard emphasizes the important points of his paper as follows: Any tumor in a woman's breast warrants an operation, not next month or next year, but now. Any unusual hemorrhage, discharge, or pelvic pain demands a thorough local examination, every means being used to make a diagnosis, and when the diagnosis has been made of a malignant growth in any portion of the uterus it becomes imperative that an operation should at once be performed. If the case is strongly suspicious, but the diagnosis is not absolute, it is best to err on the side of safety, and not to keep the woman under observation too long, but to operate at an early date.

Ophthalmic Record, Chicago

May

78 Keratitis Probably Due to Metastatic Gonorrhea. W. C. Posey, Philadelphia.
79 The Life and Labors of Dr. Richard Liebreich. J. O. McReynolds, Dallas, Texas.
80 Unilateral Retrobulbar Neuritis Due to Ethmoiditis, with Restoration of Vision. F. Krauss, Philadelphia.
81 The Local Ophthalmological Society. E. Jackson, Denver.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

May

82 Extrauterine Pregnancy. J. B. Deaver, Philadelphia.
83 Importance of Careful Postoperative Treatment in Rectal Operations. H. A. Bray, Philadelphia.
84 Importance of the Joints of the Pelvic Girdle. J. E. Goldthwait, Boston.
85 Tuberculin Therapy. H. B. Weaver, Asheville, N. C.
86 Adrenal Principle as the Main Active Agent in Pituitary, Testicular, Ovarian and Other Animal Extracts. C. E. de M. Sajous, Philadelphia.
87 Acne Indurata. J. V. Shoemaker, Philadelphia.
88 Preventive Medicine. A. J. Burkholder, Mount Sidney, Va.
89 *Erysipelas: Etiology, Symptoms, Complications and New and Successful Method of External Treatment. L. C. Davis, South Milwaukee, Wis.
90 Claims of Psychology and Allied Branches in Modern Medicine. C. B. Hardin, Philadelphia.
91 Acute Retention of Urine from Impaction of a Phosphatic Calculus in the Penile Urethra: Fatal Case of Beriberi. F. T. Woodbury, U. S. Army.

89. **Erysipelas.**—Davis advocates the treatment of erysipelas by the simple treatment employed in any acute infection accompanied by fever, rigors, and pain, viz., the administration of stimulating tonic remedies and bowel asepsis (sic). As the general condition may be gauged by severity of the skin affection, its intensity and area, he directs his energies to controlling the local focus of infection. By these means he has a record of nearly 300 patients treated successfully from the onset. He has tried without success all the ordinary measures of local treatment and falls back on the following:

℞. Carbolic acid ....3 parts
Spirits of camphor ....6 parts
Alcohol ....1 part

The amount of the acid is large, it readily penetrates the entire skin, destroys the infection promptly and leaves no scars, and causes no pain and but little smarting. The camphor prevents the burning effect of the phenol. A larger percentage of alcohol destroys the acid action too greatly. In mild cases one application a day is sufficient, extending fully an inch beyond the edge of infection. In more severe cases two or three applications a day may be made. It can be used often without fear of an untoward result. If the skin is very hot or dry the area may be covered with gauze wrung out of cold sterile salt solution.

Dominion Medical Monthly, Toronto

May

92 Experiences with Intraspinal Analgesia. H. A. Bruce, Toronto.
93 *What shall we Say to our Neurasthenic Patients? G. S. Young, Toronto.
94 Chronic Diffuse Nephritis with Terminal Infection. C. E. C. Cole, Toronto

93. **Neurasthenic Patients.**—Young cites several instances showing the good effect, when tactfully given, of that form of indirect suggestion, which has always been more or less practiced by the physician.

American Medicine, New York

May

95 Value of Milk Free Diet and Enteroclysis in Typhoid Fever. R. C. Kemp, New York.
96 Fees of Physicians and Surgeons. W. H. Peters, Providence, R. I.
97 Practical Points in the Submucous Resection of the Nasal Septum. H. M. Hays, New York.
98 History of the Lazarettos of Guiana. E. S. Goodhue, Holualoa, Hawaii.
99 Practical Value of Cystoscopy in Surgical Diagnosis. F. J. A. Torek, New York.
100 Eggs and their Value as a Food. G. Jones, Toledo, Ohio.
101 Efficiency of the Bacillus Bulgaricus in Treatment of a Case of Unilateral Chronic Suppurative Pansinusitis. O. Glogau, New York.
102 Gumma of the Femur in a Child. M. M. Stark, New York.

The Montreal Medical Journal

May

103 Multiple Neuritis. N. Viner, Montreal.
104 Voluminous Sarcoma of the Bulbo-Palpebral Conjunctiva. J. N. Roy, Montreal.
105 Cerebral and Epidural Abscesses of Otitic Origin. G. T. Ross, Montreal.
106 *Multiple Traumatic Perforation of Small Intestine. J. C. Fyshe, Bangkok, Siam.
107 *Cholecystitis, Vomiting of Gallstones—Recovery. G. Johnson, Cumpas, Mexico.
108 Capsule Forceps in Cataract Extraction. F. Tooke, Montreal.

106. **Multiple Traumatic Perforation of Small Intestine.**—The case reported by Fysche is of sufficient interest to report, showing, as it does, what the peritoneum may do under certain circumstances with no more surgical aid than a mere drainage incision. A boy 14 years of age was shot in the abdomen at close range with a large caliber revolver. He presented an irregularly circular wound about one-half inch across just inside the anterior superior spine on the right side. There had been very little bleeding from the wound; there was no escape of gas or fluid nor any viscus present. The abdomen was generally resistant, both flanks were dull, but the dulness was not movable. Liver dulness appeared normal. The pulse was over 160, respiration rapid and shallow, pupils dilated and expression anxious. The patient did not complain of pain and had passed clear urine since receiving the injury. The bowels had not moved. There was a good deal of shock, nevertheless the abdomen was opened immediately in the mid-line, below the umbilicus, by an incision about 3 inches long. Much blood and some fecal material of small gut consistency came away. The small intestine was delivered and almost at once a wound perforating both sides of the gut was found. Near it was a laceration on the anti-mesenteric side of the gut about one and one-half inches long. There was also much bruising of the mesentery between these two. The three wounds were closed in the usual way. Further examination showed seven more traumatic perforations of gut and mesentery within a distance of six feet. All this and the boy's condition made the case seem so hopeless that the abdominal opening was closed with through and through sutures after a large drainage wick had been placed in the lower angle extending freely into the abdomen. He was freely stimulated, given all the milk he could take and repeated large enemas. The drainage wick was removed on the second day and not reinserted. On the third day a small amount of fecal matter was passed by rectum and daily thereafter the quantity coming away naturally increased, and that by the wound decreased. With the first stool by rectum the boy's condition improved and it did so steadily and without further setback. One month after the accident the boy was up and about and it was found that he had been eating rice, bananas, fish and cakes for ten days previously.

107. **Cholecystitis.**—Johnson's patient, a woman aged 60, suffered from flatulent dyspepsia for 30 years. She had numerous attacks of colic, accompanied by vomiting during this same period. These attacks never lasted long, and though severe at the time never laid her up for more than one day. The pain was always worse on the right side and was frequently referred to the right shoulder. She never was jaundiced, or noticed clay-colored stools. In September, 1908, she was laid up with some fever, of what nature she does not know. She was in bed for two weeks, five days of which

she was delirious. She had no pain or cough at this time. In April, 1908, she complained of great pain in the abdomen, and vomiting. The pain had commenced three days previously, in the right upper quadrant of the abdomen, and was also referred to the right shoulder. She had vomited several times and had had no passage by the bowels since the pain began. She had had chills every day; but they did not come regularly. The abdomen was distended, especially in the right upper quadrant, where a bulging was distinctly visible, extending from the costal margin to the level of the umbilicus and from the middle line to the anterior axillary line. This mass was seen to move up and down with respiration. Respiration was very shallow. There was no visible peristalsis. On palpation the abdomen was resistant, especially over the mass. The whole abdomen was tender; but it was extremely so over the mass. This mass had a definite rounded outline, was firm to the touch, and was attached to the liver. It could be felt extending into the loin. Nothing else abnormal was found. A diagnosis of empyema of the gall bladder was made and operation was advised. This was absolutely refused. Hot linseed meal poultices were applied constantly, changing them every half hour. The bowels were moved with an enema. For about ten days she had recurring chills, sometimes two or three in a day. The mass gradually diminished in size, and the pain gradually disappeared. During this time she had no colic; she was delirious at night for seven nights. The temperature and pulse gradually came to normal, by the end of three weeks. She got up at the end of a month, although there was still a mass the size of an orange in the region of the gall bladder; this, however, was no longer tender. She had two mild attacks of pain during the summer, lasting two and three days respectively. She had another severe attack in September, 1908, similar to that in April. She was treated as before with poultices and was able to get up in ten days. The mass still remained about the size of an orange. In October, 1908, she was again seized with pain and vomiting and chills. That night she was delirious all night, and in the morning she looked very ill and complained that the pain was nearer the middle line than usual. The same abdominal conditions were found. She had a sudden very acute pain accompanied by a feeling of faintness, and then the pain in the abdomen seemed less acute. Shortly after this she vomited eight facetted gallstones about the size of a pea, along with some stinking pus. In the afternoon she had a repetition of the pain and she vomited up eight more gallstones. She rapidly improved from this time on and was able to get up in three days.

Wisconsin Medical Journal, Milwaukee

May

109 *Early Diagnosis of Tuberculosis. T. H. Hay, Stevens Point.
110 *Routes of Invasion in Tuberculosis. M. P. Ravenel, Madison.
111 *Rural Tuberculosis. F. Johnson, North Freedom.
112 *Tuberculosis. N. L. Howison, Menomonie.
113 Pathology and Clinical History of Three Cases of Actinomycosis with Apparently Direct Contagion. L. Falge, Manitowoc.
114 Three Important Time-Saving Urinary Tests. H. R. Harrower, Chicago.

109 to 112. Abstracted in The Journal, Aug. 8, 1908, p. 525.

Journal of the Tennessee State Medical Association, Nashville

May

115 *Hippocrates—Past, Present and Future. B. D. Bosworth, Knoxville.

115. Abstracted in The Journal, May 1, 1909, p. 1449.

Yale Medical Journal

May

116 Rational Hydrotherapy vs. Turkish Baths. Robert E. Peck, New Haven, Conn.
117 Matte [illegible] on of the Young. C. A. Goodriel
118 *The [illegible] M. W. Williams, Hartford, Conn.

118. **Feeding of Sick Children.**—Williams claims that the chronic gastrointestinal disorders of childhood are brought on by improper feeding and give a train of symptoms which used to be attributed to worms. They are best treated by putting a child on a strict diet of *milk*—or cream and whey mixture—with scraped beef and fruit juice. An estimate of the caloric value of food given is useful in indicating the amount of food to maintain the child's nutrition. In cases of nephritis or cases in which we fear kidney involvement, the amount of proteid should be limited, because urea, the end-product of the proteid, is difficult for the kidneys to excrete. Meat and eggs should not be given. Cream and milk mixtures or cream and whey mixtures should be our mainstay. They are to be preferred to straight milk because they have a higher caloric value in proportion to the amount of proteid and water which they contain.

Atlanta Journal-Record of Medicine

April

119 Autointoxication. T. J. McArthur, Cordele, Ga.
120 Ocular Symptoms in General Medicine. A. W. Stirling, Atlanta.
121 Whooping Cough. S. A. Visanska, Atlanta.
122 Work of the Home Treatment Dispensary for Tuberculosis. L. M. Gaines, Atlanta.
123 *Thrombosis of the Popliteal, Anterior and Posterior Tibial Arteries Complicating an Appendiceal Abscess. J. L. Campbell, Atlanta.
124 Uterine Deviations, Significance, Prevention and Treatment. R. R. Kime, *Atlanta.*
125 Pistol Shot Wound of Abdomen. T. M. McIntosh, Thomasville, Ga.

May

126 Retrobulbar Optic Neuritis. A. W. Stirling, Atlanta.
127 Surgical Mainfestations in Hysteria. W. Taylor, Atlanta.
128 Principal Cause of Typhoid Fever is the Common House Fly. J. W. Palmer, Alley, Ga.
129 Antirabic Serum with Report of Cases. J. N. Brawner, Atlanta.
130 The Doctor—His Relation to Public Sanitation. J. C. Beauchamp, Williamson, Ga.

123. **Thrombosis of the Leg Arteries Complicating Appendiceal Abscess.**—The points of particular interest in Campbell's case are:

1. The improvement for thirty hours after the opening of the abscess.
2. The delayed shock—red color of face and nails during the shock.
3. Vomiting, which was relieved by opening the colon.
4. Four days' steady improvement after opening the colon.
5. Six days after the abscess was opened the left leg was attacked (a) by numbness and tingling, (b) fifteen hours later there was severe pain, the limb becoming pale and livid with complete loss of function and sensation below the tubercle of the tibia.
6. The areas of discoloration and lines of demarcation with change of color in the foot and lower third of the leg while the upper third remained the same through the whole attack.
7. The artery filled with the clot in which the pneumococcus was found while there had been no heart or lung symptom.
8. The empty veins. The leg was amputated above the knee.

American Journal of Orthopedic Surgery, Philadelphia

May

131 *An Anatomic and Mechanical Study of the Shoulder Joint, Explaining many of the Cases of Painful Shoulder, many of the Recurrent Dislocations, and many of the Cases of Brachial Neuralgias or Neuritis. J. E. Goldthwaite, Boston.
132 Bone Pathology in its Relation to General Pathology. C. M. Cone, Baltimore.
133 *Bone Fragility and Eburnation of Rachitis. W. Blanchard, *Chicago.*
134 *Myositis Ossificans. C. F. Painter and J. D. Clarke, Boston.
135 *Pathologic Anatomy of Congenital Hip Dislocation. W. G. Turner, Fall River, Mass.
136 *Painful Feet of Raynaud's Disease. H. A. Wilson, and C. H. Muschlitz, Philadelphia.
137 *The Question of Balance. A. G. Cook, Hartford, Conn.
138 New Form of Shoemaker's Last. A. G. Cook, Hartford, Conn.
139 Diffuse Painful Lipoma of the Foot. A. H. Tubby, London, Eng.
140 *Mechanical Lesions of the Sacroiliac Joints. R. R. Fitch, Rochester, N. Y.
141 Description of Apparatus for the Application of Plaster-of-Paris Bandages. N. Allison, St. Louis.
142 *Treatment of Rheumatoid Arthritis. F. E. Peckham, Providence, R. I.
143 Mechanics of Lateral Curvature. P. Ewald, Hamburg, Germany.

131, 136. Abstracted in The Journal, Aug. 8, 1908, pp. 526, 528.

133, 134, 135, 140, 142. Abstracted in The Journal, July 25, 1908, pp. 342, 343, 344.

137. Abstracted in The Journal, Aug. 1, 1908, p. 431.

Woman's Medical Journal, Toledo, O.

May

144 [illegible] and Early Treatment of Pelvic Dis- [illegible] oung Women. E. M. Mosher, Brooklyn.
145 [illegible] Practice. E. Garrigue, New York.
146 Pernicious Anemia. M. L. Massey, Buffalo.
147 Menorrhagia. M. J. Potter, Niagara Falls.
148 Traumatic Neurasthenia. E. D. Justin, Castile, N. Y.
149 Multiple Gangrene Following a Probable Slight Thermal Change in one Extremity. A. C. Spofford, Batavia, N. Y.

St. Louis Medical Review

May

150 Principles of the Modern Treatment of Gonorrhea. J. L. Boehm, St. Louis.
151 Gonorrhea in Its Relation to the Eye. M. Wiener, St. Louis.
152 Joint Complications of Gonorrhea. P. Hoffmann, St. Louis.
153 The Cardiac Complications of Gonorrhea. L. H. Behrens, St. Louis.
154 The History of Medicine. J. McClure.

Journal Kansas Medical Society, Lawrence, Kas.

May

155 Tuberculosis. C. C. Goddard, Leavenworth, Kansas.
156 *Technic of Skin Grafting. N. C. Morrow, Altamont, Kansas.
157 Penetrating Abdominal Wounds. R. C. Lowman, Kansas City, Kansas.

156. **Skin Grafting.**—Morrow describes in detail the technic of skin grafting and sums up the various steps as follows:

1. Graft only on a freshly cut aseptic surface, or on healthy granulation tissue, without curetting or otherwise disturbing the surface.
2. Avoid the use of strong antiseptic solutions on the graft or on the denuded area directly before or at the time of grafting.
3. Take grafts from the individual to be grafted.
4. Spread the grafts directly on the denuded area, and see that the entire surface is covered.
5. A plain gauze dressing, if properly applied, meets all requirements, and is the simplest and most satisfactory to use.

Memphis Medical Monthly, Memphis, Tenn.

May

158 Porro Cesarean Section, Occasioned by Large Multilocular Ovarian Cyst Complicating Pregnancy—Recovery of Mother and Child. F. D. Smythe, Memphis.
159 Cystic Tumor of Brain in a Child of Six Years. W. T. Black, Memphis.
160 Rachitis. J. D. Bridger, Memphis.
161 Catarrhal Pneumonia as a Sequel to Influenza. D. A. Walker, Trenton, Tenn.
162 The Treatment of Skin Cancer by the X-Ray. W. S. Lawrence, Memphis.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 5

1 *Neurotic Element in Disease. G. Rankin.
2 Treatment of Eczematous Patients. E. G. Little.
3 Distribution of Longevity in England and Wales. W. Gordon.
4 Diagnosis and Treatment of Severe Anemia. C. H. Melland.
5 Pernicious Anemia with Pigmentation of the Skin and Buccal Mucous Membrane. J. Aitken.
6 Cardiac Disease. W. B. Jones.
7 *Case of General Paralysis of Insane with Extraordinary Lymphocytosis in the Cerebrospinal Fluid. W. Boyd.
8 Anesthetics in General Practice. H. B. Gardner.
9 Resection of the Trachea for Cicatrical Stenosis. G. G. Turner.
10 *Treatment of Facial Paralysis Due to Division of the Facial Nerve in the Mastoid Operation. F. Marsh.
11 Distribution of Bilharziosis on the Victoria Nyanza. J. H. Cook.
12 Fatal Hemoptysis in an Infant. E. H. Thomas.
13 Facial Paralysis Following Emotional Shock. P. C. Fenwick.

1. **Neurotic Element in Disease.**—Rankin cites a number of instances to prove his contention that the neurotic element in disease is one to reckon with, and that, despite some incredulity on the subject, there is no getting away from the fact that symptoms which are apparently wholly functional dominate the aspect of many illnesses, that they may obscure the true significance of organic manifestations, and that not infrequently they are so much the end-all and be-all of a disordered state of health as to justify the assumption that—at any rate so far as the present state of our knowledge enables us to judge—the neuroses must be taken into account as definite integers in our conception and treatment of disease.

7. **Extraordinary Lymphocytosis in General Paralysis.**—Under normal circumstances the number of lymphocytes in a field of 450 diameters, in a film made after centrifugalizing 5 c.c. of the cerebrospinal fluid for a period of ten minutes, is usually two or three. In tabes and general paralysis of the insane the number is greatly increased. In several cases which Boyd examined during the past six months the number has been from 200 to 250. In one case the enormous number of 3,450 was counted in a single field of 450 diameters; in places where the film was thick this number was greatly exceeded, but, owing to the thickness of the clumps, the exact number could not be estimated. In the non-centrifugalized cerebrospinal fluid the number of leucocytes (almost all lymphocytes) was no less than 285 per c.mm.

10. **Treatment of Facial Paralysis Due to Division of Facial Nerve.**—Marsh reports two cases in which the facial nerve was divided during a mastoid operation. In one case the facial nerve was completely divided, and the proximal end frayed and everted by the gauze packing. The proximal end was teased into its normal position—coming almost in contact with the distal end; two or three strands of fine chromic gut were placed around the nerve, the ends being inserted into the bony canal, and the parts protected for a short time by gutta-percha tissue in the manner described by Sydenham. Gentle galvanism was subsequently employed; slight return of power commenced in six weeks, and complete recovery resulted. In the other case the facial nerve was divided on Jan. 14, 1908, in clearing a cholesteatomatous mastoid which had been operated on twice previously, the relation of the parts being much altered by bone absorption. The division was recognized at the time, and the nerve ends were carefully approximated and protected for a few days with gutta-percha tissue. The operation cavity became rapidly covered with epidermis from the meatal flaps, under hydrogen peroxid and spirit treatment. As no sign of regeneration appeared in a month (February 13), it was decided to reopen the cavity and examine the nerve ends. The ends were readjusted and a strand of fine chromic gut was with difficulty inserted in each of the aqueduct openings. The postaural wound was closed and the cavity rapidly healed with suppuration. Gentle galvanism was continued, but it was not until the end of June—four months later—that signs of power commenced in the mouth muscles; the improvement steadily extended to the other muscles, and the power had by May 7 returned to all except the corrugators of the brow.

Lancet, London

June 5

14 Hypernephroma: W. Trotter.
15 *Results of a Year's Use of Vaccines in General Medicine. W. H. White and J. W. Eyre.
16 *Experimental Evidence of the Infective Origin of Carcinoma. W. F. Robertson.
17 *Recurrence of Vesical Calculi After Removal in Series of 160 Operations. F. A. Southam.
18 Pustule Simulating Anthrax Due to Organisms of the Porteus Group. T. Orr.
19 Sudden Failure of Respiration Restored by Artificial Means. R. Knox and J. Morison.
20 Tropical Form of Adenitis Apparently Due to an Unrecognized Organism. R. L. Ley.
21 Action of Digestive Ferments and Tissue Extracts, Hypodermically Injected, on Malignant Tumors in Mice. J. A. Shaw-Mackenzie.
22 Labor Obstructed by a Fibroid Tumor; Cesarean Section; Supravaginal Hysterectomy. C. E. Purslow.
23 Hernia Through the Foramen of Winslow. W. H. Haw.
24 Acromegaly. E. P. Carmody.

15. **Use of Vaccines in General Practice.**—White and Eyre employed vaccines in 10 cases of genitourinary disease, 4 cases of diseases of the alimentary system, 8 cases of empyema and subdiaphragmatic abscess and 7 miscellaneous cases. They believe that in not one of these 29 cases did the vaccines do any harm, and in the great majority it appeared that distinct benefit followed from them; in some, indeed, they saved the patient's life.

16. **Infective Origin of Carcinoma.**—The material used for the purposes of the experiments conducted by Robertson consisted of about 300 c.c. of fluid from the pleural cavity of a woman suffering from malignant pleurisy, secondary to mammary carcinoma, and of about 500 c.c. of fluid from the peritoneal cavity of a patient with malignant peritonitis. The flasks were incubated at 37 C. and the fluid remained sterile as regards bacteria. The experiments were carried out on mice and have been fully controlled by the observation of a much larger number of animals of the same stock kept under similar conditions. During the past three years this stock has consisted of from 60 to 80 mice, among which there has always been a considerable proportion of aged animals. None of these mice have developed external tumors. Robertson examined over 60 mice that have either died in the course of being subjected to ordinary virulence tests, or have been found dead in their cages, and he has not been able to observe

any internal carcinomatous lesions. Among these animals a sufficient number to form a satisfactory control series were of ages not less than those of the mice on which experiments were made. Seven out of 30 mice developed carcinomatous tumors. As the control animals have not shown any similar tumors, and as the only difference in the treatment of the two series was that the 30 mice were fed with incubated carcinomatous material from the human subject, Robertson infers that the epithelial tumors were determined by some agent contained in this carcinomatous material. As none of the 11 animals injected or fed with the fluid from the case of malignant peritonitis developed carcinomatous growths, it seems probable that this agent was contained in the fluid from the case of malignant pleurisy. On the ground of the experimental results, Robertson contends that the pathogenic agent transferred from the human subject to the mouse was not merely a chemical substance, but must have been a living virus. From one of the mammary tumors occurring in these mice he made several cultures on non-nutrient agar-gelatin. These cultures have been studied in section by means of the ammonio-silver process by Dr. M. C. W. Young, who has been able to demonstrate in them certain morphologically characteristic forms identical with those already observed in malignant tumors from the human subject and more recently in one of the original Jensen mouse tumors. Some of these forms have also been demonstrated in these experimental tumors, as well as in a mammary tumor produced in a previously healthy mouse by inoculation of one of these growths. More recent observations lead to the conclusion that a group of protozoan organisms to be classed among the mycetozoa and including very numerous pathogenic species, is associated with tumor growth, just as very numerous pathogenic species of schizomycetes are associated with inflammation. The main phases in a complicated life cycle have now been demonstrated in sections of tumors, in sections of agar cultures from tumors, and in films of the centrifuge deposit from fluid from cases of malignant pleurisy secondary to carcinoma of the breast. The phases recognized include forms with flagella sporoblasts and their residua, nucleated forms, some of which have been observed in mitosis, and certain other remarkable bodies of characteristic appearance which almost certainly represent gametes.

17. **Recurrence of Vesical Calculi.**—Southam says that a recurrence of calculi after operation is relatively not more common after lithotrity than after lithotomy; and when it does take place it is in both instances probably due to the descent of a fresh calculus from the kidney and its retention in the bladder. The percentage of recurrences after lithotrity was 7.1, and 7.2 after lithotomy.

The Medical Press and Circular, London

May 26

25 The Feeble-Minded and Their Care. G. H. Savage.
26 Suprapubic Prostatectomy. G. P. Newbolt.
27 Treatment of Cholera. L. Rogers.
28 Essentials of Physiologic History. D. F. Harris.

The Clinical Journal, London

May 26

29 Empyema. W. H. White.
30 A Case of Enteric Fever. J. A. Ormerod.
31 The Etiology of Gout, Rheumatism and Rheumatoid Arthritis. C. W. Wirgman.

Journal of Tropical Medicine and Hygiene, London

May 15

32 Etiology on Treatment of Ulcerative Granuloma of the Pudenda. J. B. Cleland, and J. R. Hickinbotham.
33 *Unusual Manifestations of Malaria. E. N. Graham.

33. **Unusual Manifestations of Malaria.**—Graham reports three cases of malaria in which the symptoms were not at all typical. The first patient was feeling "seedy," consulted a doctor, and was given a tonic of quinin and strychnin. No sooner had he taken the last dose in the bottle than toxic spasm started first in the face. then on both sides of the body, arms, legs and back. He became unconscious, breathing was labored, and he foamed at the mouth. The spasms, which came on every three or four minutes and lasted for a minute, were violent, and though morphin was given and the stomach washed, yet it was not till two hours after the onset, and when the patient was under full chloroform anesthesia, that these stopped altogether. The blood was examined, but no parasites were found, yet his temperature was 104 F. at 6 p. m. Quinin, 10 grains, was injected, and the dose repeated twice in the night. Next morning he was still unconscious, his temperature 103 F., and when touched all the muscles of the body would contract; 20 grains of quinin were now injected into the median basilic vein. In the afternoon his temperature was only 100 F.; the intravenous injection was repeated. Next morning he had regained consciousness, and was able to speak and recognize his brother, and from that time he continued to improve, and his temperature never rose above 100 F. But for the next two weeks he had definite delusions —that he was accused of a certain crime for which he was being tried. At times he became maniacal. would refuse his food, and tried to commit suicide. However, with chloral and bromid and the quinin he got well.

The second patient was admitted for "fever." The temperature was 102 F., but there were no parasites in the blood— at least none were found after three examinations, nor was there anything abnormal in the chest or abdomen. Quinin (10 grains) was given three times a day by mouth. On the second day he complained of pain in the right iliac region; the lower part of the abdomen was tender, tympanitic and did not move on respiration; the legs were flexed. Temperature 101.8 F., pulse 112; tongue dirty, but there was no vomiting, and an enema gave good result. An exploratory laparotomy was proposed, but refused. An ice-bag was placed over the appendix region, and the quinin was now injected in the muscles. The following day the temperature was normal, the pain and tenderness had disappeared and four days later the patient left the hospital.

In the third case the patient was admitted with a history of frequent stools, four to five a day, tenesmus and blood. His temperature was 99 F. No parasites could be found in the blood; the stools were pale, bulky, with a little blood, but no mucus. Large doses of ipecacuanha were given, but there was no improvement. The blood was again examined, and subtertian parasites were found. Quinin was now given; 10 grains were injected twice a day. At the end of four days he left the hospital feeling quite well, and all the symptoms had disappeared. These three cases are interesting from the fact that the microscope did not reveal the presence of parasites, and quinin by mouth had no effect. All these patients came from highly malarial districts.

Journal of Hygiene, London

April

34 Antiplague Measures in San Francisco, California. R. Blue.
35 Points Bearing on the Bacteriology of Cerebrospinal Meningitis. W. St. C. Symmers, and W. J. Wilson.
36 Cider and Perry. I. Sulphite Preservatives. H. E. Durham.
37 Relative Efficacy of the Doulton, Berkefeld and Brownlow Filters. A. Wilson.
38 *Transmission of Air and Micro-organisms Through Berkefeld Filters. W. Bulloch and J. A. Craw.
39 Danysz Effect with Reference to the Toxin-Antitoxin Reaction. J. A. Craw.
40 Plague in Further India. J. D. Gimlette.
41 *Anti-serum for Scorpion Venom. C. Todd.
42 Differentiation of Lactose-Fermenting Bacilli, with Special Reference to those of Intestinal Origin. A. MacConkey.
43 Varieties of the Meningococcus with Special Reference to a Comparison of Strains from Epidemic and Sporadic Sources. J. A. Arkwright.
44 *Experimental Lead Poisoning. K. Goadby.

38. **Berkefeld Filters.**—In January, 1908, Bullock, Atkin and Craw reported that the Berkefeld filters rapidly became contaminated so as to transmit bacteria at periods varying from a few minutes to a few hours. As a criticism of their work it was asserted that the Berkefeld filters could not stand the method of sterilization resorted to by Bulloch and Craw, which consisted in heating in an autoclave to 120 C., but must be sterilized by placing in cold water, raising the water to the boiling point and boiling for an hour. Bulloch and Craw have repeated their experiments, using this method of sterilization and find that heating to 120 C. in an autoclave does not make the filtering tubes much more permeable to air, but that the tubes when sterilized as directed still transmit bacteria, yielding an infected filtrate in a short time. Such filters are particularly liable to become pervious at the junction between the metal socket and the Kieselguhr mass.

41. **Anti-Serum for Scorpion Venom.**—Todd reaches the following conclusions from his investigations: 1. The immunization of suitable animals with scorpion venom gives rise to the

production of an antivenom. 2. This anti-venom is capable of neutralizing the venom when mixed with it *in vitro*, and also acts both prophylactically and curatively in animals. 3. The venom is not fixed by the central nervous system, as is the case with tetanus toxin. 4. Calmette's anti-venine could not be shown to have any neutralizing effect on the venom used. 5. Employed curatively in man, the serum appears to have a very marked effect on the intense pain following the sting.

44. **Experimental Lead Poisoning.**—Goadby attempted to imitate the conditions under which lead poisoning occurs in mines, factories for grinding lead, etc. Cats were exposed to the dust of various compounds of lead and showed the symptoms of lead poisoning, while controls did not develop such symptoms. The author's experiments show that poisoning may take place through the lung as well as through the gastrointestinal tract, and that susceptible animals exposed for short periods to air laden with lead dust develop symptoms of lead intoxication in a way analogous to the poisoning which takes place in men engaged in industrial processes and exposed to deleterious effects of lead-dust laden air.

Indian Medical Gazette, Calcutta

April

45 Tuberculosis Among Europeans in Calcutta. H. W. Pilgrim.
46 Incidence of Phthisis in Calcutta. T. F. Pearse.
47 Prevalence of Tuberculosis Among our Community. G. C. Chatterjee.
48 Hazaribagh and Tuberculous Disease. B. H. Deare.
49 Hazaribagh in Relation to Tuberculous Disease and Its Treatment. I. G. F. Hearn.
50 Darjeeling Climate in the Treatment of Phthisis. J. T. Calvert.
51 Notes in Support of Captain Megaw's Article, "Are Seven-Day Fever and Three-Day Fever Forms of Dengue?" H. Fooks.
52 Intestinal Animal Parasites in Monghyr. C. Lane.
53 Epidemiology of Pneumonic Plague. C. A. Gill.

Annales de Medecine et Chirurgie Infantiles, Paris

May 15, XIII, No. 10, pp. 325-360

54 *Electrotherapy in Diagnosis and Treatment of Infantile Paralysis. H. Marquès.
55 Advantages of the Acetic-Mercuric Chlorid Test for Control of Bile-Intestine Functioning. Triboulet, Ribadeau-Dumas and Harvier.

54. **Electrotherapy in Diagnosis and Treatment of Infantile Paralysis.**—Marquès states that the main features of electrotherapy in these cases are continuous galvanization of the paralyzed groups of muscles or limb during the first period. This is followed by a period of rhythmically interrupted galvanic stimulation of the paralyzed muscles with the pole which the electrodiagnosis has shown to be the predominant one. This combats both the causal affection and the consecutive atrophy. The electrotherapy must be kept up for three or four years, he states, with sittings every second day at first, then from three times to once a week. This treatment is unable to create new cells but it ensures a relative cure and prevents further deformity in nearly every case; massage is useful as an adjuvant. Retraction of the antagonist muscles must be carefully supervised and appliances used when necessary to maintain the correct position.

Archives des Maladies du Cœur, Etc., Paris

May, II, No. 5, pp. 257-320

56 *Inherited Syphilis. (Purpura hémorragique et syphilis héréditaire. Histologie des lésions et localisations du spirochète.) J. Sabrazès and R. Dupérié.
57 Anemia from Gallstones. (Anémie avec réaction normoblastique dans un cas d'ictère grave par calcul du cholédoque.) Devic and Rieux.
58 *Case of Cardio-Tuberculous Cirrhosis. L. Babonneix and Paisseau.

56. **Inherited Syphilis.**—Sabrazès and Dupérié report a careful histologic study of a case of hemorrhagic purpura and inherited syphilis, confirming anew the ubiquity of the spirochete and the way in which it affects all the tissues. They exclaim in conclusion: "How much trouble would be avoided by rational treatment of the parents, and how early and energetic should be the specific treatment of the new-born!"

58. **Cardio-tuberculous Cirrhosis.**—The child of 7 in the case reported presented in typical form all the fundamental lesions of this condition: adhesive pericarditis, pleuro-pulmonary tuberculosis, multiple lesions in liver and spleen and in the brain.

Bulletin de l'Académie de Médecine, Paris

May 11, LXXIII, No. 19, pp. 561-579

59 *Chronic Appendicitis and Cancer of Appendix. L. G. Richelot.

59. **Chronic Appendicitis and Cancer of the Appendix.**—Richelot pleads for the removal of the appendix in all cases of chronic appendicitis, reporting several instances in which the appendix was found apparently normal and yet its removal put an end to chronic annoying and debilitating disturbances. Another point which he emphasizes is that the frequency of cancer of the appendix should encourage surgeons to operate. In one of his own cases a young woman with gastrointestinal disturbances from childhood but no constipation or mucomembranous enteritis had the appendix removed after a few attacks of subacute appendicitis. The appendicectomy put an end completely to all disturbances and the microscope revealed an incipient epithelioma in the appendix. A recent Paris thesis summarizes 15 cases of cancer of the appendix reported in France, and nearly 80 have been recorded in international literature to date. The cancer was detected in the early stage before it had spread much beyond the appendix in all but 4 or 5 cases.

Presse Médicale, Paris

May 26, XVII, No. 42. pp. 377-384

60 *Obliteration of the Common and External Iliac Arteries without Gangrene of the Leg. G. Roque and J. Chalier.
61 *Antisepsis of the Skin with Tincture of Iodin. (Antisepsie de la peau par la Teinture d'iode.) Guibé.

May 29, No. 43, pp. 385-400

62 Principal Clinical Characteristics of Cerebrospinal Meningitis. R. Debré.
63 *Antimeningococcus Serotherapy. Grysez.
64 *Local Serotherapy in Ocular Affections. A. Cantonnet.
65 Technic of Lumbar Puncture. (La ponction Lombaire.) P. Desfosses.
66 Identification of the Meningococcus. (Technique essentielle de la recherche et de l'identification du méningocoque de Weichselbaum.) L. Lagane.

60. **Obliteration of Iliac Artery Without Gangrene of Leg.**—If on the alert, the symptoms of obliteration of the common iliac artery will be recognized as they appear. The patient should be kept perfectly still in bed and the limb kept warm with hot water bottles and frequent frictions. The general circulation should be stimulated, the heart action made more energetic, with, possibly, massage to favor the fragmentation of the clot and prevent secondary clot formation. The anatomic conditions are such that obliteration of the common iliac alone does not threaten gangrene on account of the wealth of anastomoses. Surgical interference has given negative results to date and medical measures are still exclusively indicated.

61. **Disinfection of the Skin with Iodin.**—Guibé confirms the importance of tincture of iodin for simple, easy and complete disinfection of the skin. The field of operation is swabbed with the tincture, whose advantages for this purpose were recently summarized in these columns. The tincture must be kept corked to prevent evaporation of the alcohol with undue concentration of the iodin. No untoward by-effects have been observed to date from its use.

63. **Antimeningococcus Serum.**—Grysez advises injection of antimeningococcus serum whenever the cerebrospinal fluid looks turbid in a case presenting symptoms of meningitis, without waiting for the report from the bacteriologic examination. The injection should be repeated the second and third days, supplemented by prolonged warm baths, and under this treatment the disease will have a favorable outcome in the majority of cases.

64. **Local Serotherapy in Ocular Infections.**—Cantonnet concludes from analysis of the cases that have been reported in which general serotherapy was supplemented by four or six daily instillations of the antiserum in question, that the local treatment gives excellent results in the early stages of the infection but is powerless after mixed infection has developed. Subconjunctival injections may be useful in diphtheritic conjunctivitis but under other conditions instillation is sufficient.

Archiv für klinische Chirurgie, Berlin

LXXXIX, No. 2, pp. 281-503. Last indexed May 8, p. 1549

67 Partial Sequestration of Transplanted Bone Tissue. (Vorgang
transplantirten Knochengewebes.)
68 Surgery of the Pancreas. F. Rosenbach.

69 Ultimate Outcome of Radical Herniotomies. (Dauerresultate der Radicaloperation bei Hernien.) A. Sertoli.
70 Lateral Retroperitoneal "Ovarian Cyst." (Ueber einen retroperitonealen, höchstwahrscheinlich oophorogenen Tumor.) W. Pullmann.
71 Spinal Anesthesia, especially for Laparotomies. (Erfolge der Medullaranästhesie, speciell bei Laparotomien). Zaradnicky.
72 Umbilical Adenoma. (Nabeladenom.) W. Mintz.
73 Pseudotumors in Region of Appendix. (Periappendiculäre pseudo-neoplastische entzündliche Tumoren.) F. Gangitano.
74 Atypical Laceration of Patella Ligament. (Zerreissung des Kniestreckapparates.) K. Appel.
75 Bronchobiliary Fistula. (Gallengang-Bronchusfistel.) J. Tyrman.
76 Technic of Resection of Intestine in Artificial Anus. (Tecknik der Darmresection bei der Behandlung des Anus praeternaturalis.) M. Mori.
77 *Simple Method of Operative Treatment of Prolapse of Rectum in Children. (Behandlungsmethode des Prolapsus recti bei Kindern.) G. Ekehorn.
78 *New Device for Anastomosis of Intestines, Etc. (Eine neue Methode zur Anlegung von Gastroenterostomien, Darm und anderen Anastomosen.) A. Oschmann.
79 Development of Tibial Tubercle and a Typical Affection in Adolescents. (Entwickelung der Tuberositas tibiæ und ihre typische Erkrankung in der Adolescenz.) W. Bergemann.
80 Retroperitoneal Hernia. (Hernia retroperitonealis Treitzii totalis accreta.) R. Felton.

77. Abstracted in THE JOURNAL, June 12, page 1966.

78. **Substitute for Intestinal Button in Anastomosis.**—Oschmann claims a number of advantages for the method of anastomosis described and illustrated in this article. He says that it has all the advantages of the Murphy button with none of its drawbacks. The principle consists in the application of two small plates, one of which has a row of holes and the other has the surface cut into in such a way that a row of thorn-like spikes are cut out of the plate and stand erect, each spike corresponding to one of the holes in its fellow plate. Each plate is cut out in the center so that it fits over a long centerpiece projecting in the blade of a special clamp forceps. The blades of the forceps, each loaded with its plate, are introduced into the organs to be joined, one in each organ. By shutting the blades the two little plates are brought into juxtaposition and the spikes on one enter the holes in the other and are riveted down by the pressure of the forceps blades. The two plates thus cling together in place as the forceps are withdrawn. The ideal is to make the plates of absorbable material, but magnesium proved too fragile for the purpose, and he uses an alloy of magnesium with iron or aluminum. The incisions required for the introduction of the blades of the forceps are very small, the anastomosis is over a wider area than with a button; the long, rounding, narrow plates are readily evacuated, and permit the passage of stools, while the anastomosis is more complete and the junction hermetically closed. He reports experimental tests of the new method and its successful application in one clinical case.

Berliner klinische Wochenschrift

May 17, XLVI, No. 20, pp. 909-956

81 Status of Physiology in the Medical Curriculum. (Stellung der Physiologie im Universitätsunterricht.) M. Rubner.
82 *Natural Healing Processes in Brain Tumors. (Selbstheilungsvorgänge bei Gehirngeschwülsten.) Anton.
83 *Importance of Monkeys for Tests of Antiserums. (Antistreptokokkenserum.) Zangemeister.
84 *Laparotomy under Momburg's Belt Constriction for Uterine and High Rectal Carcinomas. (Laparotomia hypogastrica unter Anwendung des Momburgschen Taillenschlauches bei Uterus und hochsitzendem Rektumcarcinom.) Neuhaus.
85 Tumors in Hypophysis Region with Unusual Disturbances in Vision. (Geschwulst in der Hypophysisgegend mit ungewöhnlichen Sehstörungen.) Crzellitzer.
86 Lime and Phosphorus Metabolism in Rachitis. II. (Kalk in der Pathologie der Rachitis.) J. A. Schabad.
87 Incapacity for Lactation. (Stillungs-Unfähigkeit.) W. Schultz.
88 Sexual Impressions dating from Childhood in the Psychoanalysis of Neurasthenia. (Zur Frage der infantilen Sexualität.) Marcinowski.

82. Abstracted in THE JOURNAL, June 5, 1909, page 1895.

83. **Antistreptococcus Serum Derived from Monkeys.**—Zangemeister has not been able to confirm in the clinic or with monkeys the favorable results obtained with ordinary antiserums on guinea-pigs and rabbits. He thinks that monkeys should be used for the production of curative serums, and has instituted experiments in this line. The serum of highly immunized monkeys confers on mice a passive protection against streptococcus infection, notwithstanding the wide difference in the species. Horse antistreptococcus serum, on the other hand, failed to protect the monkey in his tests.

84. **The Momberg Belt Constriction for Operations on Uterus and Rectum.**—Neuhaus states that the Momberg technic for expelling the blood from the lower part of the body has been applied to date in 17 gynecologic surgical and in 17 obstetric cases, in other clinics, and in 5 cases of cancer of the uterus in Mackenrodt's clinic. Neuhaus gives the details of this last group, states that no injury from the belting was apparent in any instance. The stout rubber tubing is wound from two to four times around the waist and drawn tight until pulsation in the femoral artery is no longer perceptible. The belt was not applied for the laparotomies until after the abdomen had been opened. The aim is to shut off the upper abdomen as completely as possible, leaving nothing in the lower part except the lower segment of the colon and the rectum, the bladder and the internal genital organs. The pelvis has to be raised high and the patient under the influence of the anesthetic to accomplish this; after the belt has been applied the pelvis can be lowered. A few sponges serve to wall off the upper abdomen still more completely, and the viscera are thus protected against chilling, contact with blood, instruments, etc., and the operative shock is much reduced as also the danger of infection, while the surgeon is not hampered in his work by interfering loops of intestine. With very corpulent persons it may be advisable to interpose a pad of gauze over the arteries before drawing the belt tight. When this is done it is not necessary to belt so tightly. In one case the pad was applied directly to the artery, inside the peritoneum; in the others, the pad was fitted over the artery in the groove made by drawing up the belt, the compression acting through the skin. The ends of the tube are clamped together, using a blunt instrument not to cut the rubber. The incision when the belt constriction is applied should be transverse, not along the median line, the vessels and nerves in the muscles being pushed out of the way. The smaller vessels which otherwise annoy by bleeding are plugged with a clot, but after the uterus and adnexa have been removed the belt is loosened to detect any bleeding points. The peritoneum is then drawn down and the field of operation roofed over, leaving a strip of iodoform gauze on each side to drain into the vagina. The pelvis is then lowered and the abdominal incision sutured. It was noticed that the spinal anesthesia in these belted cases lasted twice as long as usual; the smaller amount of blood in the shut-off area presented less absorbing surface.

Correspondenz-Blatt für Schweizer Aerzte, Basle

April 1, XXXIX, No. 7, pp. 217-256

89 *Influence on the Mind of Conditions in the Heart. (Herz und Gemut.) G. Rheiner.
90 *Auditory Hallucinations from Salicylic Medication. (Hörtäuschungen durch Salicylsäure.) J. Seitz.

89. **Relations of the Mind and Heart.**—Rheiner has noticed that acute worry, as over the sudden sickness of some member of the family, is liable to affect the heart action and even induce symptoms of oppression, much more pronounced than in the prolonged grief from some irremediable sorrow. The healthy heart soon accommodates itself to increased demands on it, but if the musculature is weak or diseased serious damage may result from the emotional disturbance. On the other hand, he has encountered a number of cases in which nervous agitation and insomnia were accompanied by a weak systolic murmur suggesting possible arteriosclerosis, the nervousness increasing to an actual psychosis in a few weeks. No sedatives or other drugs gave relief until digitalis was tentatively tried, and it worked like magic. As the pulse improved the insomnia, melancholy and sense of weakness vanished and the patient regained her normal peace of mind. One patient was a woman of 66 and she took a total of 4.5 gm. of digitalis infusion in the course of a week. Rheiner's experience thus emphasizes the importance of bearing in mind a possible connection between the functioning of the heart and psychic affections.

90. **Auditory Hallucinations from Salicylic Medication.**—Seitz reports a number of cases in which patients taking salicylates experienced auditory hallucinations for which the salicylate was evidently responsible. The hallucinations were not new ideas in any instance, but long forgotten memories of certain sounds were aroused, the roar of a certain water

fall, the singing of birds heard in a certain garden, etc. The minute amount of chemical reaching the cells seemed to bridge the gap between unconscious and conscious memories.

Deutsche medizinische Wochenschrift, Berlin

May 20, XXXV, No. 20, pp. 873-912

91 *Diagnosis and Treatment of Tetany. F. Chvostek. Commenced in No. 19.
92 *Bismuth Poisoning and Non-toxic Substitute. (Ueber Wismutvergiftungen und einen ungiftigen Ersatz des Wismut für Röntgenaufnahmen.) W. Alexander.
93 *Behavior of Pancreas with Gastric Achylia and Anacidity. (Verhalten des Pankreas bei Achylie und Anazidität des Magens.) R. Ehrmann and R. Lederer.
94 Deleterious Influence of Meat in Diet according to Ancient and Modern Views. (Einiges über die Beurteilung der Fleischnahrung als Krankheitserreger in alter und neuer Zeit.) G. Schneidemühl.
95 *Paratyphoid Bacilli in Ice in which Fish are Packed. (Paratyphusbazillen im Transporteis der Seefische.) Rommeler.

91. **Tetany.**—Chvostek concludes his long study of this subject by reviewing the treatment, especially of gastric tetany. Profuse rinsing of the stomach, stopping feeding by the mouth, and copious saline infusion are the first indications. After a day or two of this, small doses of alkaline waters can be given and, if conditions improve, nothing further is needed; if not, time is gained for operation. The stomach tube must be introduced very cautiously or the manipulations may aggravate the spasms. Rest in bed, equable warmth, tepid baths and sweating procedures supplement the above with good effect. His experience confirms the benefit from linden-flower tea, according to von Eiselsberg's sweating technic. Morphin may be required; he has never seen any effect from the bromids; chloral by the rectum may also be given a trial. Operative measures have no effect on the concentration of the blood, which some think is the cause of the tetany; neither can the operation repair the total insufficiency of the parathyroids, which we must accept as the cause for the tetany that terminates fatally.

92. **Substitute for Bismuth.**—Alexander gives skiagrams taken with magnetic oxid of iron instead of bismuth, and relates clinical and experimental research with this powder. Larger amounts are required than for the bismuth, but as the oxid is harmless no disturbances need be feared. He gives it in a suspension with a little sugar of milk and pulverized chocolate. About 140 gms. of the oxid are required for a good skiagram of the stomach.

93. **Behavior of the Pancreas with Gastric Achylia and Anacidity.**—Ehrmann and Lederer give the metabolic findings and results of various tests in 98 cases, mostly with subnormal gastric secretion. Among the results of their research is the unexpected discovery that deficient or lacking ferments of the gastric juice and lack of normal acidity do not seem to influence the functioning of the pancreas harmfully. Its functions seem even better than under normal conditions. It is therefore unnecessary to administer hydrochloric acid to stimulate the pancreatic functioning. There is nothing to indicate that hydrochloric acid is the specific stimulant for the pancreas. With hypersecretion the increased production of pancreatic juice is probably a reflex process, to protect the intestine. The more bile in the stomach content, generally the more trypsin. The intestinal juice may be mechanically forced into the stomach during the retching movements caused by introduction of the stomach tube. To date it is impossible to estimate the functioning of the pancreas by the retrograde flow of intestinal juice into the stomach.

95. See Berlin Letter in The Journal, June 19, page 2007.

Medizinische Klinik, Berlin

May 16, V, No. 20, pp. 723-758

96 *Treatment of Neuroses of Voice and Speech. (Behandlung der Neurosen der Stimme und Sprache.) H. Gutzmann.
97 Chemical Correlations in the Organism. K. Grube.
98 Introduction of [illegible] against Microbes of [illegible] Intestine. (Bekämpfung [illegible] im Darm durch Einführ [illegible] Combe. Commenced in No. 19.
99 Experiences with Mechanical Devices for Respiratory Exercises. (Erfahrungen mit neueren Methoden der maschinellen Atmungsgymnastik.) A. Laqueur.
100 Influencing of Growth of Plants by Electricity. (Beeinflussung des Pflanzenwachstums durch Elektrizität.) M. Breslauer.
101 *Puerperal Fever. (Ueber Kindbettfieber.) Zangemeister.

96. **Treatment of Nervous Vocal Disturbances.**—Gutzmann expatiates on the importance of graphic registration of the movements of the vocal organs for analysis of disturbances in the voice or speech. He has devised a special technic for the purpose. In treatment he has found that vibration of the larynx by means of an electrically driven tuning fork, with the number of vibrations corresponding to the pitch of the voice, is effectual. Graphic registration of the movements of the vocal organs has also thrown new light on the mechanism of stuttering, showing abnormal methods of inspiration and expiration which can easily be corrected. Especially useful in this respect are Schreber's methods of deep breathing combined with gymnastic exercises. The apparatus for altering the positive and negative pressure in the lungs has also proved useful, the patient being entirely passive, and the inspiration and vacuum produced by the apparatus simulating the natural and normal type of breathing, which the patient thus learns to reproduce.

101. **Puerperal Fever.**—Zangmeister states anew in the course of this long study of puerperal fever that its frequency still amounts to 0.2 per cent. of all childbirths, but that it is extremely rare in women who have not been examined or the genitalia infected from without or who are free from some extragenital focus of infection. Prophylaxis must aim to keep germs away from the genitalia during the last few weeks of the pregnancy; vaginal douches must be omitted, and the woman must keep away from possible sources of streptococcus or other infection in her own household, etc. A sick servant may serve as the source for infection. Any focus on the woman's body, such as a leg ulcer, must be kept carefully covered not to allow germs to find their way thence to the genital region. The general resisting power should be kept at its highest point, and it should not be forgotten that prolonged anesthesia, severe losses of blood and chilling of the body, such as are possible during an obstetric operation, all tend to reduce the vitality and resistive power. Means to enhance the resistive forces artificially have not yet been worked out to a practical success; even antistreptococcus serum, effectual in animals, has not proved reliable in the clinic. The uterus must be emptied after the delivery and be kept empty. Retention of lochia may be caused by overfilling of the bladder, by backward displacement of the bladder from an abdominal band applied too early, by retroflexion, by a myoma in the cervix, by excessive packing of the vulva, etc., but constipation does not seem to have much effect in inducing retention of lochia. In regard to local measures, he says that the more we learn in regard to Nature's means for preventing and overcoming infection, the more absurd seem our former therapeutic efforts in this line. Nature throws up a wall around the infectious focus to isolate it, and when we scrape away, cauterize or otherwise destroy this protecting barrier, we are liable to transform the local process into a fulminating sepsis. Either the infectious germs are already being walled off in the endometrium—when any outside measures are superfluous—or else they have already invaded the vicinity—in which case we are too late. It is impossible to root out the germs in the depths of the tissues by the most energetic curetting or cauterizing and consequently he warns to abstain from any attempt in this line as liable to open new wounds for the penetration of the virulent germs into the circulation. Prompt removal of the entire uterus may prove useful when we learn to distinguish the cases which will prove fatal without such radical measures. It is especially important, he adds, to refrain from operating on infectious pyosalpinx pockets, as the operation is liable to be followed by fistula persisting for years, or by secondary injuries. Incision and drainage of fresh puerperal peritonitis have not proved effectual to date, as the adhesions between the intestines and drains interfere with the complete escape of the secretions. Cataplasms, iodin, superheated air and similar measures are liable to benefit, but he warns against the ice-bag, and adds that superheated air must not be applied until the inflammatory process has entirely subsided, as otherwise it is liable to flare up again. He also warns against drugs to combat the bacteria, as they act on the cells more destructively than on the germs and do harm rather than good. Even metallic mercury

and colloidal silver have proved useless. The only measures that seem to promise well are a copious supply of fluids and the use of fresh normal human serum. It is safer to err on the side of feeding too little than to give more than the patient can assimilate. Fever should *not* be combated, but lavage of the stomach may be found useful in the vomiting of peritonitis, and for vasomotor paralysis, subcutaneous injection of adrenalin in the proportion of ten drops to a liter of physiologic salt solution. Another important point to bear in mind is the care of the skin, especially for prevention of decubitus.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

May, XXIX, No. 5, pp. 553-676

102 Hemolytic Streptococci and the Prognosis of Puerperal Fever. O. Bondy.
103 *Prophylactic Treatment of Eclampsia and Results in 330 Cases. W. Stroganoff.
104 Fetal Peritonitis. M. Unger.
105 Cysts Developing in Gartner's Duct. (Durch Laparotomie gewonnene Gartnersche Cysten.) R. Unterberger.

103. **Prophylactic Treatment of Eclampsia.**—Stroganoff states that his method of prophylaxis of eclampsia has been applied in 360 cases at St. Petersburg and the mortality of this disease has been reduced to 6.6 per cent. for the mothers and to 21.6 per cent. for the children. He reiterates that he knows of no disease in which therapeutic measures display more brilliant results than in eclampsia, and he urges the more general adoption of his technic. It aims to prevent the convulsions by reducing the irritability of the nervous system, obtaining tranquil sleep by means of narcotics, and removing everything liable to induce irritation, terminating the pregnancy if necessary, and watching over the regular action of heart, lungs and kidneys, the patient in the most favorable positions, administering oxygen in abundance, and keeping the patient under the influence of morphin and chloral, with chloroform at first until the patient feels the effect of the chloral. His technic was described in THE JOURNAL, Sept. 20, 1902, page 733, and time has apparently confirmed his early statements as to its efficiency: In moderately severe cases, first morphin, about 0.015 gm.; in one hour or sooner, 2 gm. chloral; morphin again the third hour; chloral the seventh, and 1.5 gm. chloral again the thirteenth and twenty-first hour. Delivery is hastened as necessary and fluids are supplied by the rectum or mouth, from 150 to 250 c.c. four or five times a day. The aim is to prevent the convulsions, even if as much as 4 or 5 gm. chloral and 0.03 or .04 morphin plus chloroform occasionally are required in the course of five or six hours. If the convulsions keep up obstinately, delivery is hastened. Vaginal Cesarean section is indicated if necessary, but he has never had occasion to resort to operative measures. He is convinced that the mortality of eclampsia can be reduced to 1 or 2 per cent. if this method of treatment is begun early and systematically carried through, in the absence of serious complications. It is applicable to eclampsia before, during or after delivery, and experience has demonstrated that sedatives can be relied on as the mainstay in treatment. He adds in conclusion that in his opinion operative measures in eclampsia: vaginal Cesarean section, decapsulation of the kidneys, nephrotomy, or combinations of these, are carrying surgery to unfounded extremes.

Münchener medizinische Wochenschrift

May 18, LVI, No. 20, pp. 1001-1056

106 *Reaction Obtainable in the Blood of the Insane. (Eine Reaktion im Blute von Geisteskranken.) H. Much and W. Holzmann.
107 What Factors Determine the Size of the Heart? O. Bruns.
108 *Danger for Typhoid Bacilli Carriers from their own Typhoid Bacilli. (Gefährdung des Typhusbazillenträgers durch die eigenen Typhusbazillen.) W. Kamm.
109 *[illegible] is. E. Krenecker.
110 [illegible] luring the Puerperium. [illegible] Wochenbett und über das [illegible] K. Holzapfel.
111 *[illegible] the Ménière Syndrome. [illegible] enièreschen Symptomen- [illegible] Herzer.
112 *[illegible] (Paralytiker-Kinder.) Herrmann.
113 [illegible] ith Scabies. G. Knauer.

106. **Special Reaction in the Blood of the Insane.**—Much has found that the serum of patients with dementia præcox and manic-depressive insanity inhibits the hemolytic action of cobra venom, while other serums do not possess this property. He has examined 400 serums, including nearly 50 persons with these mental affections, and the reaction occurred positively in this group as also in persons whose parents had had these affections, and it occurred in none of the others. Both for diagnosis and from the forensic standpoint this announcement is important and it also throws light on the nature of insanity. He calls the phenomenon the psychoreaction. In one instructive case the Wassermann test was constantly negative and the psychoreaction positive, confirming the clinical diagnosis of tabes and manic-depressive insanity based on three weeks' study of the dubious case; paralytic dementia had been first accepted. The psychoreaction was positive also in persons free from circular insanity but with a history of it in their family. The reaction does not occur with the cerebrospinal fluid.

108. **Danger to Bacillus Carriers from their Own Bacilli.**—Kamm gives the postmortem findings of four typhoid-bacillus carriers and reviews others on record which show the possibility of caries of the ribs and other lesions from the persisting typhoid bacilli. In one of his cases and in Fehr's, a carcinoma developed in the gall bladder for which the presence of the typhoid bacilli was evidently responsible. His findings confirm still further the importance of diligent search for means to rid bacilli carriers of their parasites.

109. **Typhoid Agglutination in Tuberculosis.**—Krenecker reports that the agglutination test with typhoid bacilli gave positive results in 8 out of 26 cases of tuberculosis, including the paratyphoid bacilli in 2. In 2 instances the agglutination test was negative at first, but became positive later. He warns against undue reliance on the agglutination test, as positive findings may be obtained in latent or manifest tuberculosis without typhoid antecedents. In the positive cases the patients all had fever.

111. **Vibration Massage for the Ménière Syndrome.**—Herzer has found vibration massage so effectual in migraine, chronic rhinitis and connected conjunctivitis, and in neuralgia of the cranial nerves, that he applied it in a rebellious case of Ménière's disease. The vibration massage was applied to the nasal mucosa and the active hyperemia in the head induced by reflex action had a favorable influence on the inflammatory process and congestion in the semi-circular canals. The case described in detail was that of a man of 40; no benefit had been derived from the usual drug treatment. The massage was applied to the nose every second day at first for twelve days, then three, then two times a week for about ten weeks, and there has been no recurrence during the two years since.

112. **Progressive Paralysis and Offspring.**—Herrmann had opportunity to examine the children of 120 married couples, either husband or wife having progressive paralysis. The number of births was about the same as under other conditions, but the proportion of childless couples is much larger, and more than half of all the children show distinct signs of physical or mental anomalies. Only 66 of the 124 children were robust; 54 suffered from some mental affection.

Wiener klinische Wochenschrift, Vienna

May 13, XXII, No. 19, pp. 661-698

114 *Hemolytic Jaundice and Occurrence of Hemolytic Phenomena in this and in Pernicious Anemia. (Ueber hämolytischen Ikterus.) K. v. Stejskal.
115 Experiments with [illegible] Pemphigus, Etc. (Reizvers[illegible] und bei einem blasigen [illegible], Reines.
116 Insensibility of T[illegible] ädisches Phänomen.) J. C. Rowly.

114. **Hemolytic Jaundice.**—Stejskal reports two cases, one in a girl of 16, the other in a young clerk. The trouble seems to have begun at puberty and there was considerable lassitude with the jaundice and anemia, pains in the spleen and in the liver. All these symptoms subsided in about two weeks but recurred again at intervals, the anemia becoming constantly more severe.

Zentralblatt für Chirurgie, Leipsic

May 15, XXXVI, No. 20, pp. 705-744

117 Implantation of Ureter in the Intestine. (Zur Technik der Ureterenimplantation in den Darm.) W. W. Sslzemsky.

May 22, No. 21, pp. 745-784

118 Case of Operative Treatment of Embolism of Pulmonary Artery. (Ein nach Trendelenburg operierter Fall von Embolie der Lungenarterie.) Kruger.

Zentralblatt für Gynäkologie, Leipsic

May 8, XXXIII, No. 19, pp. 649-680

119 Non-Toxicity of Human Fetal Organs for Rabbits. (Fötale Organe sind für den Tierkörper ungiftig.) Hikmet.

May 15, No. 20, pp. 681-712

120 *To Shorten the Round Ligaments to Correct Retroversion. (Uterofixatio Ligamenti rotundi.) J. Jerie.
121 Chronic Endometritis. Ellerbroek.
122 *Fatal Hemorrhage from Myoma after Roentgen Exposure. (Fall von tödlicher Myomblutung nach Röntgenbestrahlung.) F. Spaeth.

May 22, No. 21, pp. 713-752

123 *Uterine Cancer at End of Pregnancy. (Zur Kasuistik des Uteruskarzinoms am Ende der Schwangerschaft.) E. Grilfenberg.
124 *Seroreaction in Obstetrics. (Méthode der Deviation du complement, angewendet bei der geburtshilflichen Physiopathol ogie.) D. Viana.

120. **To Shorten the Round Ligaments to Correct Retroversion.**—Jerie writes from Pawlik's clinic at Prague to describe, with an illustration, a method of shortening the round ligaments by taking up a loop and inserting the top of the loop under a bridge cut for it in the anterior wall of the uterus just below the original insertion of the ligament. The loop is fastened here with two or three sutures, and approximately physiologic conditions and direction of traction are restored. This technic is particularly useful when the round ligament is too frail for the Alexander-Adams operation.

122. **Fatal Hemorrhage from a Myoma After Roentgen Exposures.**—Spaeth's patient was a woman of 47 who refused to permit operative removal of a large benign myoma with excessive menstrual hemorrhage. Roentgen treatment was instituted, seven exposures being given, but the menstrual hemorrhage became still more abundant and the patient succumbed to heart failure about six weeks after commencement of Roentgen treatment. This case shows the necessity for working with greater intensity on the ovaries to induce atrophy as rapidly as possible, thus preventing menstrual congestion with consecutive menorrhagia. This is the only way to permit the application of radiotherapy to women whose heart and kidneys have suffered so much from constant losses of blood, from the injury and from the metabolic processes of the myoma, that an operation is too dangerous. He adds that women should not be allowed to become so debilitated from excessive menstrual hemorrhage that they are unable to stand even the most cautious treatment.

123. **Uterine Cancer and Pregnancy.**—In the course of a few weeks chance brought three cases of uterine carcinoma to the Kiel clinic in women in the tenth month of pregnancy and all were delivered of a living child; by the natural route in one case and by section in the others, followed by panhysterectomy. The patients were dismissed in good condition and two are free from recurrence to date, the longest interval four months. The patients were between 30 and 40, the oldest being a xii-para and the youngest an viii-para. Sarwey was able to find only 240 cases of uterine cancer in pregnant women including 6 at term. Among the 287 cases of carcinoma observed at Kiel during the last seven years, 10 per cent. were first discovered a few weeks or months after a childbirth. These with other statistics show that 21 per cent. of all such cases during the genital period correspond with a recently ended pregnancy. Fully 25 per cent. of 60 inoperable cases showed this same connection with a pregnancy. The puerperal conditions in the pelvis favor the total extirpation to a remarkable extent. In his 3 cases there had been nothing to suggest malignant disease except in one case slight hemorrhage for two days during the middle of the pregnancy, and in another slight hemorrhage two weeks before delivery, but in all the vaginal portion of the uterus was transformed into a hard, knobby crater. The Wertheim-Bumm technic proved satisfactory.

124. **Deviation of Complement in Obstetrics.**—Viana has been applying with placenta extract the biologic test as for serodiagnosis of syphilis, but with definite results in only three out of nineteen patients.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 4, XXX, No. 53, pp. 561-568

125 *Yeast in Treatment of Abscesses in the Ear. (Il lievito di birra nella cura dell'otite-circoscritta esterna.) N. Antenore.

May 6, No. 54, pp. 569-576

126 *Diffuse Hypertrophy of Submucous Connective Tissue of the Stomach. (Studio clinico anatomico ed istologico della linite plastica di Brinton.) A. Cova and G. Bono.

May 9, No. 55, pp. 577-592

127 Congenital Myatonia. (Malattia di Oppenheim.) T. Silvestri.

May 11, No. 56, pp. 593-600

128 *Prophylaxis of Recurring Tonsillitis. (Profilassi delle tonsilliti recidivanti colla detersione meccanica della cavita orale a mezzo dello spazzolino e del bicarbonato de soda in polvere.) A. Campani and G. Formiggini.

May 13, No. 57, pp. 601-608

129 Instrumental Dilatation in Eclampsia plus Cicatricial Stenosis of the Cervix. G. Carli.

May 16, No. 58, pp. 609-624

130 *Treatment of Hemorrhagic Diathesis in the Insane. (Terapia delle diatesi emorrhagiche negli alienati.) G. Gatti.
131 *Veratrum Viride in Eclampsia. U. Fabris.

125. **Yeast in the Treatment of Abscess in the Ear.**—Antenore reports six cases in which circumscribed otitis in the outer ear was treated internally with yeast, taken 2, 3 and 4 times a day. The tendency to recurring furuncles in the ear was promptly arrested and there has been no recurrence since. The patients took the yeast for about a week. This yeast treatment was supplemented by local application of medicated gauze. Under the influence of the yeast the pain and the morbid tendency rapidly subsided, although the furunculosis had long persisted unmodified by other measures.

126. **Diffuse Hypertrophy of Gastric Connective Tissue.**—Cova and Bono give the findings in a case in which the patient presented the symptoms of Brinton's plastic linitis. The autopsy findings confirm their assumption that this plastic linitis is merely one variety of cancer distinguished by an unusually slow growth.

128. **Prophylaxis of Recurring Tonsillitis.**—Campani relates that he has been successful in the prophylaxis of recurring tonsillitis in persons formerly extremely subject to it. His method is merely to scrub the teeth, gums and tongue down to the base the last thing at night, with a soft toothbrush dipped in dry sodium bicarbonate. Bacteriologic tests of the scrapings of the tongue and gums in the morning showed that they were comparatively sterile in comparison with the findings when this mechanical-chemical cleansing was not done, as the stagnation of the saliva during sleep favors proliferation of germs in the mouth.

130. **Gelatin in Hemorrhagic Diathesis in the Insane.**—Gatti has found hemorrhagic purpura rather frequent in the Udine asylum, and reports good results from subcutaneous and intravenous injections of gelatin. In a few cases he supplemented the gelatin with intravenous injections of mercuric chlorid.

131. **Veratrum Viride in Eclampsia.**—Fabris has found this drug so useful that he regards it almost as the specific remedy. He relates the details of five cases in which it was used, and reviews seven articles in Italian literature, confirming its value in this disease. The pulse grows slow, the blood pressure and temperature drop, while peristalsis is induced, diuresis favored and albuminuria subsides. The patients all tolerated it without disturbances.

Policlinico, Rome

May 9, XVI, No. 19, pp. 581-612

132 Aphasia. (La questione delle afasie.) A. Marina.

May 30, No. 23, pp. 677-708

133 The Agglutinating Reaction in the Milk of Palermo Goats. (La latto reazione (Zammit-test) nel latte delle capre della citta di Palermo.) G. Chimera.

Riforma Medica, Naples

April 26, XXV, No. 17, pp. 449-476

134 Anatomy and Pathology of Posterior Spinal Roots with Special Regard to the Pathogenesis of Tabes. (Anatomia e patologia delle radici posteriori spinali.) E. Levi.

May 3, No. 18, pp. 477-504

135 Diffusion in Organism of Diphtheria Toxin. A. Connio.
136 Differential Blood Count in Scorbutus. (La formula emoleucocitaria in 10 casi di scorbuto.) D. De Albertis.

May 10, No. 19, pp. 505-532

137 *Postoperative Spasm of the Intestines. (Sull'enterospasmo postoperatorio.) G. Morone.
138 Hyperemia in Surgical Lesions. (Il metodo di Bier in terapia chirurgica. Ulteriore contributo clinico sperimentale.) C. Laccetti.

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Address

PREVENTABLE DEAFNESS

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, 1909

W. SOHIER BRYANT, A.M., M.D.
NEW YORK

A survey of otology shows that great advances have been made in the treatment of deafness, but prevention of deafness has, up to this point, only been touched on. The laity are well informed on the necessity of otologic aid in cases of active inflammation or loss of hearing and they are fully aware of the futility of our effort to restore hearing in some chronic cases of deafness. Is it not time that they were enlightened on the subject of the prevention of deafness and should we not instruct them to use this knowledge before deafness has progressed beyond the power of restoration? We should make the laity realize that a little attention in season can prevent serious irremediable loss later on. Especially is this knowledge of importance to persons having deaf ancestors.

Nearly all deafness is preventable. Consequently the study of preventable deafness embraces a consideration of all otology, except that part dealing with the equilibrational apparatus.

Cases of middle-ear diseases are so numerous proportionately that the cases of deafness from other sources may be neglected without much detriment to the economic value of our conclusions. We shall, therefore, omit the consideration of cases of meatal deafness, cases of deafness due to peripheral sensory defect, and cases of senile deterioration of hearing. The cases of meatal deafness are easily remedied; the number of the cases of deafness due to sensory defect is small, and senile deterioration of hearing is physiologic. We will limit ourselves to the consideration of preventable deafness from middle-ear diseases alone.

In order to understand how deafness may be prevented, we must examine into the etiology, pathology, course, treatment, and final results of the affections causing the deafness.

We find that all middle-ear changes appertaining to our subject can be placed in two pathologic groups:

1. Ulcerative, necrotic, hypertrophic, adhesive and cicatricial processes.
2. Atrophic and sclerosing processes.

There are two fundamental etiologic factors which contribute to these pathologic groups: (1) infection and (2) toxic vasomotor paresis usually of infectious origin. The paresis and exhausted vasomotors are probably always combined with infection and are chiefly due to it. This is equivalent to saying that all forms and almost all cases of middle-ear deafness are actually the results of infection. The truth of this statement is obvious in the suppurative cases. In the cases of progressive deafness, the true etiologic cause is less apparent, but the cause may be demonstrated on inspection of the nasopharynx, where inflammatory conditions are always found. The etiology is proved by the good results of treatment of these infections.

To prevent infection, we must avoid infectious organisms. We know that nearly all infectious organisms reach us through the upper air tract, entering with dust. We must, therefore, adhere strictly to the rules of hygiene relative to pure air.

The normal function of the mucous secretion is most important in order to prevent infection. Mucous secretion entangles the micro-organisms which enter with the inspired air. Thus they are rendered innocuous and are wafted to localities where they can do no harm.

Local resistance to infection requires a healthy mucous membrane with normal mucous secretion. This secretion is affected by constitutional conditions and is especially impaired by derangement of the digestive and nervous systems. There is, for instance, a thick mucus produced in constipation and in faulty metabolism, and an absence of mucus with the dry throat accompanying acute mental shock.

Next to the avoidance of infectious organisms, the maintenance of resistance to these organisms is of the utmost importance. Infection may best be resisted when the hygienic conditions are ideal. There must be sufficient sleep and exercise, proper food and drink, and an unlimited supply of fresh air.

A local soil retentive of infection is due to the inability of the individual to cope with the virulence of the infection or to thick mucus and to mechanical interference with the natural ejection of the mucous excretion containing the micro-organism.

Next to keeping the soil resistant to infection, the most important part of prevention is destroying infection. Efforts along these lines would result in preventing the great bulk of deafness, since over 80 per cent. of all deafness is due clearly to some form of local infection.

An infection which has already taken place is arrested by the maintenance of local hygiene, supplemented by antiseptics, by drainage, by surgery of the nasal fossæ, by surgery of adenoids and tonsils and by rigorous general hygiene of surroundings and habits. In acute inflammations, the nasopharynx requires special care in order to further tubal drainage and ventilation.

We find that with few exceptions deafness is the direct result of an infection of the middle ear or the indirect result of nasopharyngeal infection through its toxic influence on the vasomotors controlling the blood

137. **Postoperative Intestinal Spasm.**—In Morone's case the convalescence after a gastrectomy for carcinoma of the pylorus was disturbed by the spasm of the bowel coming on a day and a half after the operation. The patient was a woman of 57, and the enterospasm proved fatal twenty-eight days after the gastrectomy. The abdomen was opened again the twentieth day and the bowel was found in a condition of diffuse spastic contraction throughout its entire length. No benefit was derived from the laparotomy but there were no signs of peritonitis at the autopsy ten days later. Food injected into the rectum was vomited from the stomach.

Nordiskt Medicinskt Arkiv, Stockholm

XLI, Surgery, No. 2. Last indexed Jan. 30, p. 428

139 *Buttonhole Suture, a Continuous Series of Knots. (Knopflochnaht, eine fortlaufende Knotennaht.) N. V. Akerblom.
140 Case of Appendicitis with Transposed Colon. (Fall von Blinddarmentzündung mit Transpositio coli.) Söderbaum.
141 *Early Diagnosis and Operative Treatment of Hydronephrosis. (Öfver hydronefrosen med afseende på tidig operation och tidig diagnos.) G. Ekehorn.
142 Two Cases of Pavement Epithelium Carcinoma of the Breast. (Plattenepithelcarcinom der Brustdrüse.) A. Troell.
143 Large Teratoid Tumor in Infant's Thyroid. (Zur Kenntnis der kongenitalen Geschwülste am Halse.) H. Lavonius.
144 [illegible] rine Myoma. A. Faber.
145 * [illegible] for Ulcers in the Stomach or Duodenum. [illegible] 's Magen- und Duodenalgeschwürs.) K.

139. **Buttonhole Suture.**—The illustrations show the details of this form of suture in which a hard knot is made at each of the stitches in the continuous thread as the needle is drawn out at each stitch. Instead of drawing the needle out from within the loop formed by the last segment of thread, as in the ordinary form, it is introduced from without, the last segment of thread being twisted to form one or two loops over the tip of the needle before it is drawn out. The entire suture can be removed all at once, which is another advantage. Traction may be exerted on the threads in various directions, thus obtaining the benefits of different kinds of sutures at will.

141. **Early Diagnosis of Hydronephrosis.**—The ureteral catheter is sometimes the only way to confirm the diagnosis as in 2 of the 4 cases reported by Ekehorn; in others it may be necessary to open up the region. His experience shows the possibility of complete functional restitution if the obstruction to the passage of urine is removed early, before the formation of an encysting membrane and before the kidney tissue has been irretrievably injured by the distention. He advocates an early operation as the most certain way to discover the cause of the obstruction and permit its removal, and the intervention should be restricted to this.

145. **Surgery of Gastric and Duodenal Ulcers.**—Dahlgren reviews 52 cases of operative treatment, giving the details of each and the ultimate outcome. About 38 or 45 minutes before the operation the patients are given a heart tonic, camphorated oil and strychnin, plus a little morphin are injected, and if the patient is much excited large quantities of alcohol with some opium are injected into the rectum, according to Witzel's suggestion. These preliminaries reduce the amount of anesthetic needed. After the operation the patient is returned to a warmed bed, the foot of which is raised while the patient's shoulders rest on high pillows. This bends the body at an angle with the pelvis at the lowest point. Subcutaneous infusion follows as soon as the patient is in bed, unless done during or just preceding the operation, and if the conditions require it, the infusion is made into a vein, with addition of sugar, and heart tonics. As a rule, camphor is injected every third or sixth hour and the intestines are rinsed out every fourth or seventh hour or a bowel tube introduced. Four or six times a day an enema to be retained is injected, with or without addition of sugar, alcohol or other stimulants, after the rinsing enema, or continuous infusion of a fluid into the rectum is arranged for. If there has been perforation, nothing is given by the mouth for a week, but otherwise fluid food is allowed from the first. Paresis of the bowel is combated by the above measures, possibly supplemented by injecting castor oil into the bowel before the tube is removed, urging the patient to retain it as long as possible, supplementing it at need by a subcutaneous injection of physostigmin, 0.001 gm. twice a day, half an hour before the bowel rinsing.

Ugeskrift for Læger, Copenhagen

April 29, LXXI, No. 17, pp. 445-476

146 *"Uveo-Parotid Fever." (Om en Febris uveo-parotidea subchronica, lokaliseret til Glandula Parotis og Øjets Uvea og hyppigt kompliceret med Pareser af cerebrospinale Nerver.) [illegible] d in No. 16.
147 [illegible] Gastroenterostomy. (Gastro- [illegible] A. Pers.

May 6, No. 18, pp. 477-504

148 Indications for Treatment in Norwegian Sanatoriums. (De norske højfjeldssanatorier.) F. Gron.

May 13, No. 19, pp. 505-528

149 Small Typhoid Epidemic from Bacillus Carrier in Dairy. A. E. Nielsen.

146. **Uveo-Parotid Fever.**—Heerfordt reports three cases of a *subchronic febrile infection localized* in the parotid gland and the uvea of the eye, complicated with paresis of cerebrospinal nerves. He is convinced that this is a special syndrome, distinct from epidemic mumps which it resembles in some respects. The long prodromal period, from fourteen days to three months, the low, long persisting fever, the subchronic localization in the parotid gland and uvea and the frequent complicating paresis—all these differentiate it from mumps, as also its slight contagiousness. The uveitis in some cases developed before the parotitis. The paresis is evidently the work of the toxins as it subsides soon without leaving organic defect. It is possible that the disease is caused by the same microbes as mumps, but no transitional forms have been observed, although there is much to suggest that it is an atypical form of acute parotitis.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

STUDIES ON IMMUNITY. By *Robert Muir, M.A., M.D., Professor* of Pathology, University of Glasgow in Collaboration with Carl H. Browning, M.D., Alexander R. Ferguson, M.D., and William B. M. Martin, M.B., Ch.B. Cloth. Pp. 216. Price, $3.00. New York: Oxford University Press, 1909.

INBORN ERRORS OF METABOLISM: The *Croonian Lectures Delivered* Before the Royal College of Physicians of London, in June, 1908. By *Archibald E. Garrod, D.M.*, M.A., Fellow of the Royal College of Physicians. Cloth. Pp. 168. Price, $1.35. New York: *Oxford* University Press, 1909.

SUTURE OF ARTERIES: An Experimental Research. By E. Archibald Smith, M.B., Ch.B., Victoria University F.R.C.S., England. Cloth. Pp. 70, with illustrations. Price, 90 cents. New York: Oxford University Press, 1909.

MEDICAL INSPECTION OF SCHOOLS. By. A. H. Hogarth, M.B., B., Ch., D.P.H., County Medical Officer of Health for Buckinghamshire. Cloth. Pp. 360. Price, $2.00. New York: Oxford University Press, 1909.

GRAPHIC METHODS IN HEART DISEASE. By John Hay, M.D., M.R.C.P., Assistant *Physician, Liverpool Royal* Infirmary. With an introduction by James MacKenzie, M.D., M.R.C.P. Cloth. Pp. 184, with illustrations. Price, $3.00. New York: Oxford University Press, 1909.

COMMON DISORDERS AND DISEASES OF CHILDHOOD. By George Frederick Still, M.A., M.D., F.R.C.P., Professor of Diseases of Children, King's College, London. Cloth. Pp. 731, with illustrations. *Price, $5.50. New York:* Oxford University Press, 1909.

A TEXT-BOOK [illegible] THE EAR. By. Prof. Dr. Adam Politzer, [illegible] of Aural Therapeutics in University of [illegible] the Personal Request of the Author, and [illegible] Ballin, Ph.B., M.D., Assistant Surgeon, New York Ophthalmic and Aural Institute, and Clarence L. Heller, M.D. Edition 5. Cloth. Pp. 892, with 337 original illustrations. *Price, $8.00.* Philadelphia: Lea & Febiger, 1909.

REPORT TO THE BOARD OF TRUSTEES "COMMISSIONERS OF WATER-WORKS" OF CINCINNATI, OHIO. By Geo. H. Benzenberg, Chief Engineer. 1909. Cloth. Pp. 267, with illustrations.

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. Reprints. Vol. ix., 1909. Paper. Pp. 405, with illustrations.

THE SMOKELESS COMBUSTION OF COAL IN BOILER PLANTS, with a Chapter on Central Heating Plants. By. D. T. Randall and H. W. Weeks. Bull. 373 Dept. of Interior, U. S. Geological Survey. Paper. Pp.188. Washington: Government Printing Office, 1909.

CHARITY SERVICE REPORTS, COOK COUNTY, ILL. 1908. Paper. Pp. 248, with illustrations.

HANDBUCH DER BIOCHEMIE DES MENSCHEN UND DER TIERE. Herausgegeben von Prof. Dr. Phil. et Med. Carl Oppenheimer, in Berlin. 16th, 17th and 18th installments. Paper. Price, 5 marks each. Jena: *Verlag von Gustav Fischer*, 1909.

L'HYPOPHYSE ET LA MÉDICATION HYPOPHYSAIRE. Par M. le Docteur Arthur Delille, Membre Adjoint de la Société Anatomique. Paper. Pp. 336. Paris: G. Steinheil, 1909.

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Address

PREVENTABLE DEAFNESS

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, 1909

W. SOHIER BRYANT, A.M., M.D.
NEW YORK

A survey of otology shows that great advances have been made in the treatment of deafness, but prevention of deafness has, up to this point, only been touched on. The laity are well informed on the necessity of otologic aid in cases of active inflammation or loss of hearing and they are fully aware of the futility of our effort to restore hearing in some chronic cases of deafness. Is it not time that they were enlightened on the subject of the prevention of deafness and should we not instruct them to use this knowledge before deafness has progressed beyond the power of restoration? We should make the laity realize that a little attention in season can prevent serious irremediable loss later on. Especially is this knowledge of importance to persons having deaf ancestors.

Nearly all deafness is preventable. Consequently the study of preventable deafness embraces a consideration of all otology, except that part dealing with the equilibrational apparatus.

Cases of middle-ear diseases are so numerous proportionately that the cases of deafness from other sources may be neglected without much detriment to the economic value of our conclusions. We shall, therefore, omit the consideration of cases of meatal deafness, cases of deafness due to peripheral sensory defect, and cases of senile deterioration of hearing. The cases of meatal deafness are easily remedied; the number of the cases of deafness due to sensory defect is small, and senile deterioration of hearing is physiologic. We will limit ourselves to the consideration of preventable deafness from middle-ear diseases alone.

In order to understand how deafness may be prevented, we must examine into the etiology, pathology, course, treatment, and final results of the affections causing the deafness.

We find that all middle-ear changes appertaining to our subject can be placed in two pathologic groups:

1. Ulcerative, necrotic, hypertrophic, adhesive and cicatricial processes.
2. Atrophic and sclerosing processes.

There are two fundamental etiologic factors which contribute to these pathologic groups: (1) infection and (2) toxic vasomotor paresis usually of infectious origin. The paresis and exhausted vasomotors are probably always combined with infection and are chiefly due to it. This is equivalent to saying that all forms and almost all cases of middle-ear deafness are actually the results of infection. The truth of this statement is obvious in the suppurative cases. In the cases of progressive deafness, the true etiologic cause is less apparent, but the cause may be demonstrated on inspection of the nasopharynx, where inflammatory conditions are always found. The etiology is proved by the good results of treatment of these infections.

To prevent infection, we must avoid infectious organisms. We know that nearly all infectious organisms reach us through the upper air tract, entering with dust. We must, therefore, adhere strictly to the rules of hygiene relative to pure air.

The normal function of the mucous secretion is most important in order to prevent infection. Mucous secretion entangles the micro-organisms which enter with the inspired air. Thus they are rendered innocuous and are wafted to localities where they can do no harm.

Local resistance to infection requires a healthy mucous membrane with normal mucous secretion. This secretion is affected by constitutional conditions and is especially impaired by derangement of the digestive and nervous systems. There is, for instance, a thick mucus produced in constipation and in faulty metabolism, and an absence of mucus with the dry throat accompanying acute mental shock.

Next to the avoidance of infectious organisms, the maintenance of resistance to these organisms is of the utmost importance. Infection may best be resisted when the hygienic conditions are ideal. There must be sufficient sleep and exercise, proper food and drink, and an unlimited supply of fresh air.

A local soil retentive of infection is due to the inability of the individual to cope with the virulence of the infection or to thick mucus and to mechanical interference with the natural ejection of the mucous excretion containing the micro-organism.

Next to keeping the soil resistant to infection, the most important part of prevention is destroying infection. Efforts along these lines would result in preventing the great bulk of deafness, since over 80 per cent. of all deafness is due clearly to some form of local infection.

An infection which has already taken place is arrested by the maintenance of local hygiene, supplemented by antiseptics, by drainage, by surgery of the nasal fossæ, by surgery of adenoids and tonsils and by rigorous general hygiene of surroundings and habits. In acute inflammations, the nasopharynx requires special care in order to further tubal drainage and ventilation.

We find that with few exceptions deafness is the direct result of an infection of the middle ear or the indirect result of nasopharyngeal infection through its toxic influence on the vasomotors controlling the blood vessels of the middle ear. The treatment of these infections can be divided into two chief divisions: (1) combating the infection and (2) maintaining or restoring nutrition.

Mechanical obstructions, as we all know, may be found in any part of the upper air tract, in the pharynx, nasopharynx, but most especially in the nose. These obstructions are lymphoid hypertrophies, turbinal hypertrophies and deformities of bone and cartilaginous framework. A very common functional obstruction to the natural expulsion of organisms is habitual mouthbreathing, and the consequent engorgement of the sniderion membrane.

There are two chief aims to which general hygiene is directed in order to maintain the general and local power of resistance to infection: (1) the maintenance of the mucous membrane of the upper air tract in a resisting condition, and (2) the maintenance of this mucous membrane in a condition so that it shall not be a retentive soil for infection.

Local hygiene requires attention to a great variety of details. In the first place, the nasal irregularities and obstructions demand correction because of their harmful respiratory and reflex nervous effects and also because, through hindrance to drainage, they foster local infections and the retention of toxic and infectious material.

Orthopedics of the facial bones are very important factors in the prevention of deafness. Orthopedics require the removal of obstructing tonsils and adenoids, regulation of irregular teeth, widening the alveolar arches, attention to intranasal structures, and the maintenance of efficient nasal respiration.

Not only does chronic engorgement of the turbinates and erectile tissues of the nose and nasopharynx require correction, but attention must also be given to its causes. The mechanical causes I have just mentioned. A more important class of causes we must not overlook, namely, those coming under the head of vasomotor paresis, which is usually of toxic origin.

The infections of tl [illegible] 're special treatment, since in this [illegible] are likely to spread to the ear, or to obstruct the tubes by the swelling which they cause, or when by their local toxic action they may produce local vasomotor paresis. To sum up, the hearing is injured by the extension of infection into the ears, by local paresis of the vasomotors or by the mechanical obstruction of the tubes.

Besides the care of the grosser nasopharyngeal infections, especial care must be taken to detect and correct the concealed nasopharyngeal infections which are without suppuration and which are accompanied by no more than a slight swelling or redness of the mucous membrane. These concealed local infections usually occur on the posterior-superior wall of the nasopharynx. The mucosa is slightly thickened and sometimes covered with pathologic secretions. It is pale and slightly edematous, or red and rough, bleeding on slight contact with the cotton probe.

The second pathologic group of changes causing middle-ear deafness are the atrophic and sclerosing middle-ear processes. The etiologic factors concerned with this group are four: (A) infectious organisms; (B) a retentive soil; (C) an exhausted or inhibited vasomotor system, and (D) a toxic paresis of the sympathetic nerves. Infectious organisms (A) and a retentive soil (B) have already been considered, leaving Groups C and D for our further attention.

Deafness of the atrophic and sclerosing type, besides being due to altered blood supply dependent on cicatricial contraction consequent on infection of Groups A and B, is also due to (C) a functionally, exhausted or inhibited vasomotor system which may result from an abnormal mental state inhibiting the somatic functions and also form menstrual; obstetrical, or neurasthenic disorders.

We must safeguard the vasomotor function of the sympathetic nervous system, which controls the blood supply of the middle ear and consequently controls the nutrition of the sound-conducting apparatus. The efficiency of this system is of great importance in the prevention of deafness.

Our care is directed to the prevention and elimination of the injurious effects on the vasomotor functions caused by mental shock. We must also avoid fatigue carried beyond the point of physiologic recovery and the nervous effects of derangement of the reproductive system and take pains to correct the impaired vasomotor function of the ears left after the exciting cause has passed away.

The alterations of the blood supply of the ear, dependent on a pathologic inhibition or overstimulation of the vasomotor or sympathetic nerves, occur in three stages: active congestion, passive congestion and anemia due to lessened arterial supply. These functional conditions of the blood vessels of the middle ear are usually transient and do no harm. If, however, these conditions persist, trophic changes result, causing the atrophic and sclerosing diseases of the ear. The congestive states, if long continued, finally lead to the anemic state which is more or less permanent.

Sometimes the anemic state is primary, commencing by a spasm of the arteries, which after long duration causes atrophic and sclerosing changes of the middle ear from the impaired nutrition caused by the deficient blood supply.

The primary cause of the middle-ear vasomotor disturbances occasionally depends on inhibition or unstable control of the higher nerve centers brought about by exhaustion and shock.

Most of the vasomotor disturbances of the middle ear and the consequent atrophic and sclerosing conditions we see in the tympanum are due wholly to toxic influences which we group in Class D. These changes of the middle ear are exemplified by the atrophic and sclerosing middle-ear diseases, which sometimes follow typhoid fever or some other exhausting disease. It is, in fact, a toxic paresis of the vasomotors governing the blood supply to the middle ear.

The greater number of these toxic causes as we meet them in practice are due to very insidious results of long-continued absorption of toxins from the nasopharynx. These absorbed toxins affect the sympathetic ganglia in the neighborhood of the pharynx and thus cause changes in the tympanic blood supply and, finally, trophic changes in the sound-conducting mechanism of the middle ear.

One reason why these insidious forms of atrophic and middle-ear sclerosis are allowed to continue for so long a time is that their nasopharyngeal cause is overlooked, since there may be no local symptoms which attract the attention of the patient. The specialist must often search carefully before he discovers the slight abnormalities in Luschka's tonsil indicating the seat of the toxic process. The presence of the infection is often shown only by a slight redness or edema of this region.

The hereditary tendency noted in sclerosing middle-ear disease is obviously not real, but only apparent. The unstable nervous system, the weak digestion, and the unbalanced metabolic functions are inherited, but the exciting cause of the diseased hearing is lacking unless some accidental stress throws these weak functions out of balance. This stress gives the initial stimulus to the condition causing the middle-ear deafness. There is less physiologic disturbance required to start the middle-ear process in those disposed to deafness through heredity than in individuals of robust constitution.

Our success in preventing deafness when middle-ear disease exists is in proportion to the rapidity of cure of the middle-ear diseases. The acute inflammatory conditions require early energetic measures for drainage, with early myringotomy and mastoid evacuation in cases which will not drain.

In work about the mastoid region the preservation of the middle-ear structures assures the restoration of normal hearing following convalescence.

During convalescence from acute inflammation and after operations, inflation should be practiced in order to prevent contractions and adhesions and in order to keep the sound-transmitting structures in their normal positions. In these cases the infection of the nasopharynx, the tubal ventilation and the local and general vasomotor condition need correction.

Syphilitic middle-ear diseases respond readily to antisyphilitic treatment with complete restoration of function in early cases.

Periodical examination of patients is necessary for success in preventing deafness. This is true in all cases of deafness, but is especially true for the prevention of the insidious deafness due to middle-ear atrophy and sclerosis. If the patient waits until he is already deaf before seeking relief, he will bring to the specialist a far-advanced sound-conduction disease very resistant to treatment. From what has gone before, we conclude that all cases of middle-ear deafness can be avoided if rigid hygienic care and medical supervision are employed to safeguard the individual. We also see that the restoration of a defective middle ear is possible if structural changes are not advanced.

CONCLUSIONS

Practically all deafness is due to the results of infection. Causes leading to infection are to be corrected, the soil is to be rendered non-retentive and the existing ear defects are to be treated at once. Avoidance of the infectious organisms, the maintenance of the nasopharynx in a healthy condition, the eradication of any existing infection, and the avoidance of impairment of the sympathetic nervous system through toxic action of fatigue or infection, will insure against deafness. To insure immunity from deafness, it is necessary for the individual to undergo a periodical oto-rhino-pharyngeal examination, perhaps once a year, so that any incipient middle-ear disturbance may be detected and corrected before the condition has become established.

41 East Thirty-third Street.

Recent Work on Aphasia.—All the worthy recent literature on aphasia is gone over by James Collier (*Brain*, 1909, xxxi, 523). About seventy-eight articles and books, most of which have appeared within the last three years, are reviewed and a digest of them is given. Of recent years the localization of centers of expression has been more conclusively worked out. The method of surface examination and serial macroscopic sections has been replaced by the more accurate method of serial microscopic sections throughout the brain as the essential basis of the localization of the lesion in cases of aphasia. Collier's opinion is often apparent in the discussion of the recent controversies on different phases of the subject.

Original Articles

THE VISUAL FIELDS IN HYSTERIA

A CLINICAL STUDY OF FIFTY CASES*

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The majority of systematic writers on hysteria assert that the most common ocular stigma of this neurosis is a concentrically contracted field of vision. From time to time, however, suggestions have been made intimating the possibility of error in this statement. As my experience seems rather to agree with the minority, I determined to tabulate a relatively small number of cases, the records of which were complete, and present conclusions from this series alone. The results here obtained, however, agree with the findings in a much larger number of cases, the records of which are too incomplete for publication.

Whether the lesion in hysteria be central or peripheral, whether due to anesthesia of the retina, or entirely a matter of suggestion, is not to be considered in this paper.

The cases are all from the neurological or ophthalmological clinic in the University of Michigan. Dr. C. D. Camp, clinical professor of neurology, made all the examinations except those of the eyes, which were made in the ophthalmologic department. All cases in which there were errors of refraction or pathologic lesions that could in any way interfere with the fields were eliminated; otherwise the cases were taken consecutively, and in no way are they selected cases. The fields were all taken on the same perimeter and under like conditions.

Von Graefe suggested that the concentric limitation of the visual fields was the most important ocular sign of hysteria, while dyschromatopsia was first clearly described by Galezowski in 1886. Parinaud says, "The essential sign of hysteria is the concentric contraction of the field of vision, to which may be added in certain cases a particular form of dyschromatopsia." He also thought that the contracted fields were associated with amblyopia. Describing dyschromatopsia, he says, "The narrowing of the visual field, which explains the insensibility to white light, constitutes the fundamental fact of hysterical amblyopia. The disorder of vision as regards colors is a superadded fact which is not constant." In speaking of the field Parinaud says, "It represents an insensibility of a portion of the field to white light, and this insensibility develops from the circumference to the center in such a way that a graphic drawing of the contraction would be represented by an almost circular line." Binswanger, in speaking of the views of the French school which holds that the concentric narrowing of the visual field is the most frequent ocular stigma in hysterical subjects, says, "The skepticism with which we regard the statements of Charcot's school, Galezowski, Parinaud, Landolt, Féré, and others, increases in direct proportion to the growth of our experiences on the subject; for these investigators attribute too much importance to the concentric contraction of the visual field in hysteria." In this country de Schweinitz, in speaking of the concentrically contracted fields, says, "The value of this symptom seems

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

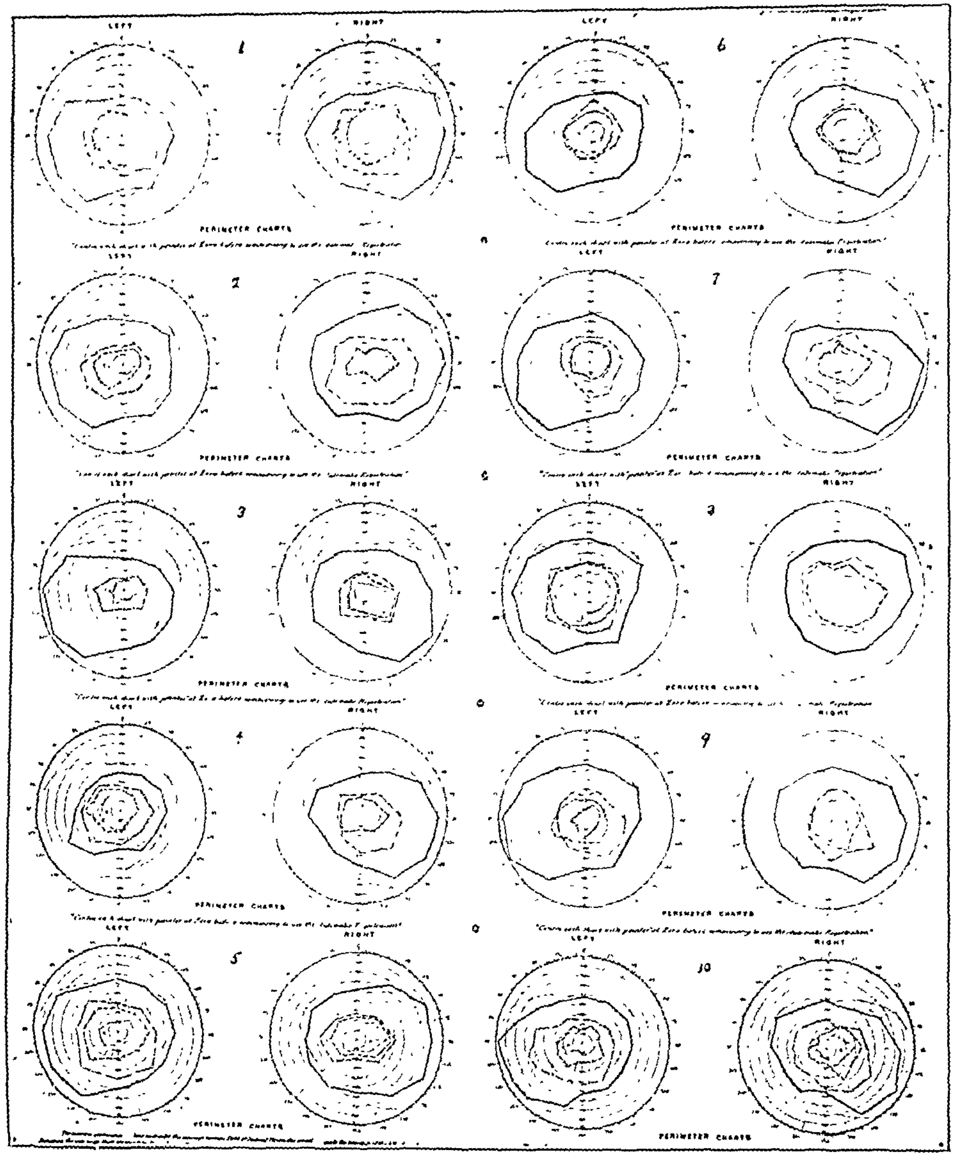

Fig. 1.—Visual fields in Cases 1-10. ...... indicates green field.— — — indicates red field. —·—·—. indicates blue field. ———— indicates form field.

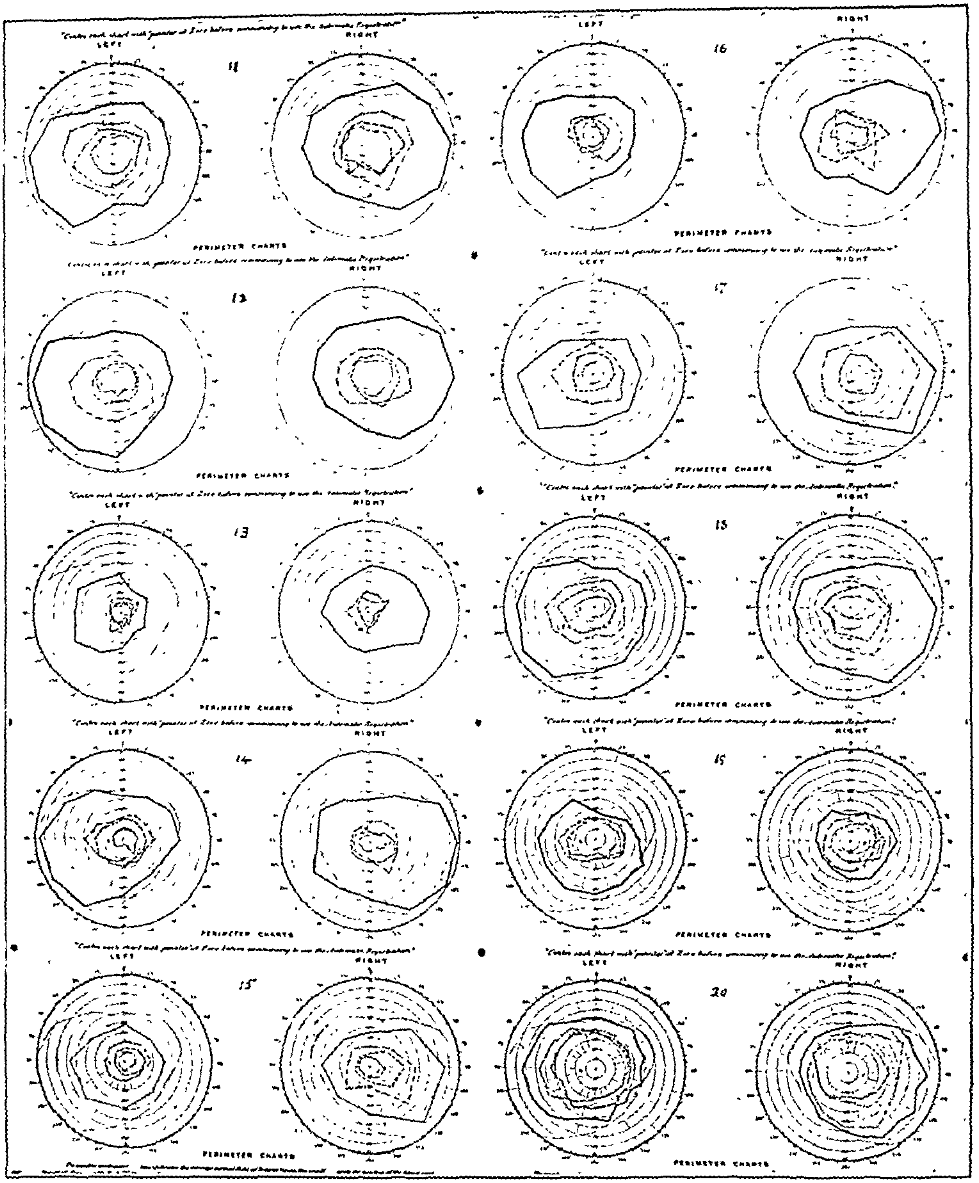

Fig. 2.—Visual fields in Cases 11-20.

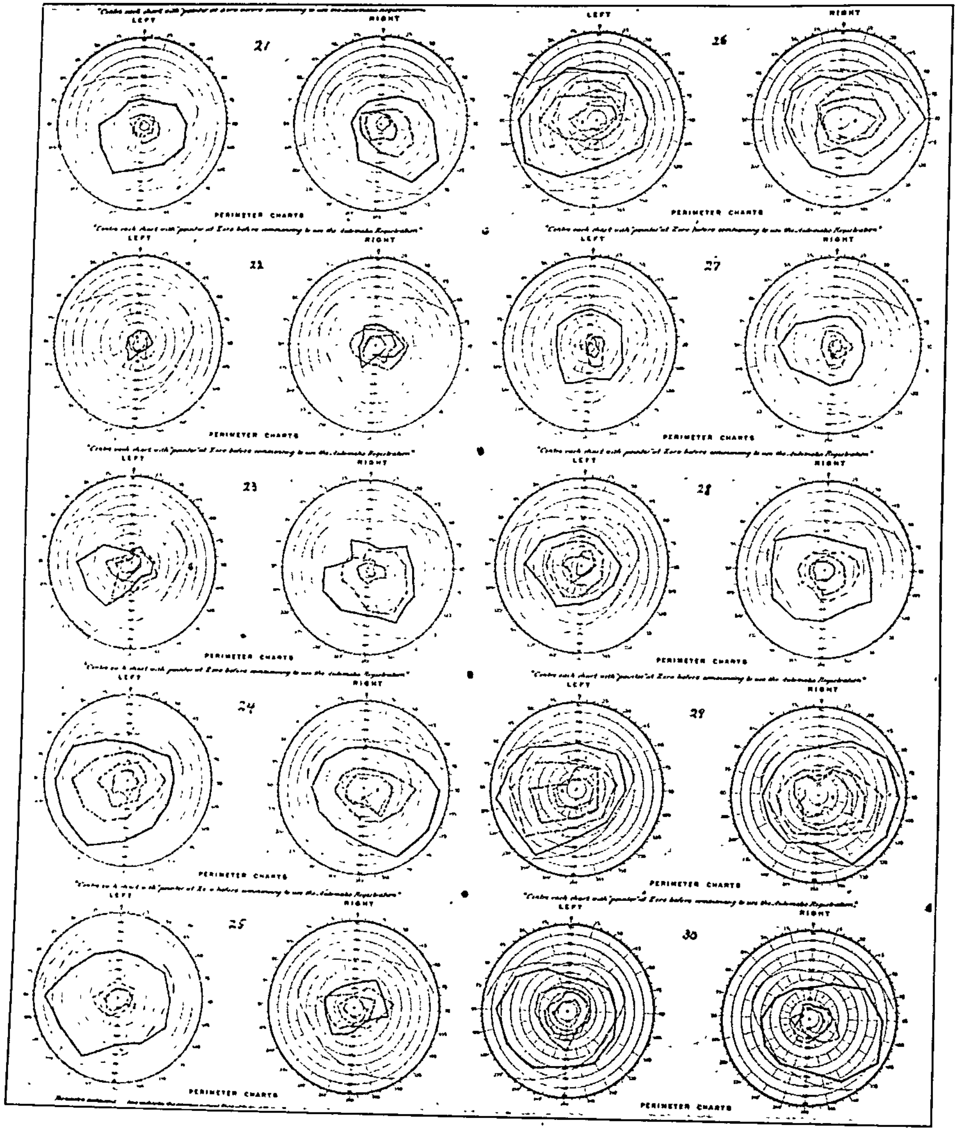

Fig. 3.—Visual fields in Cases 21-30.

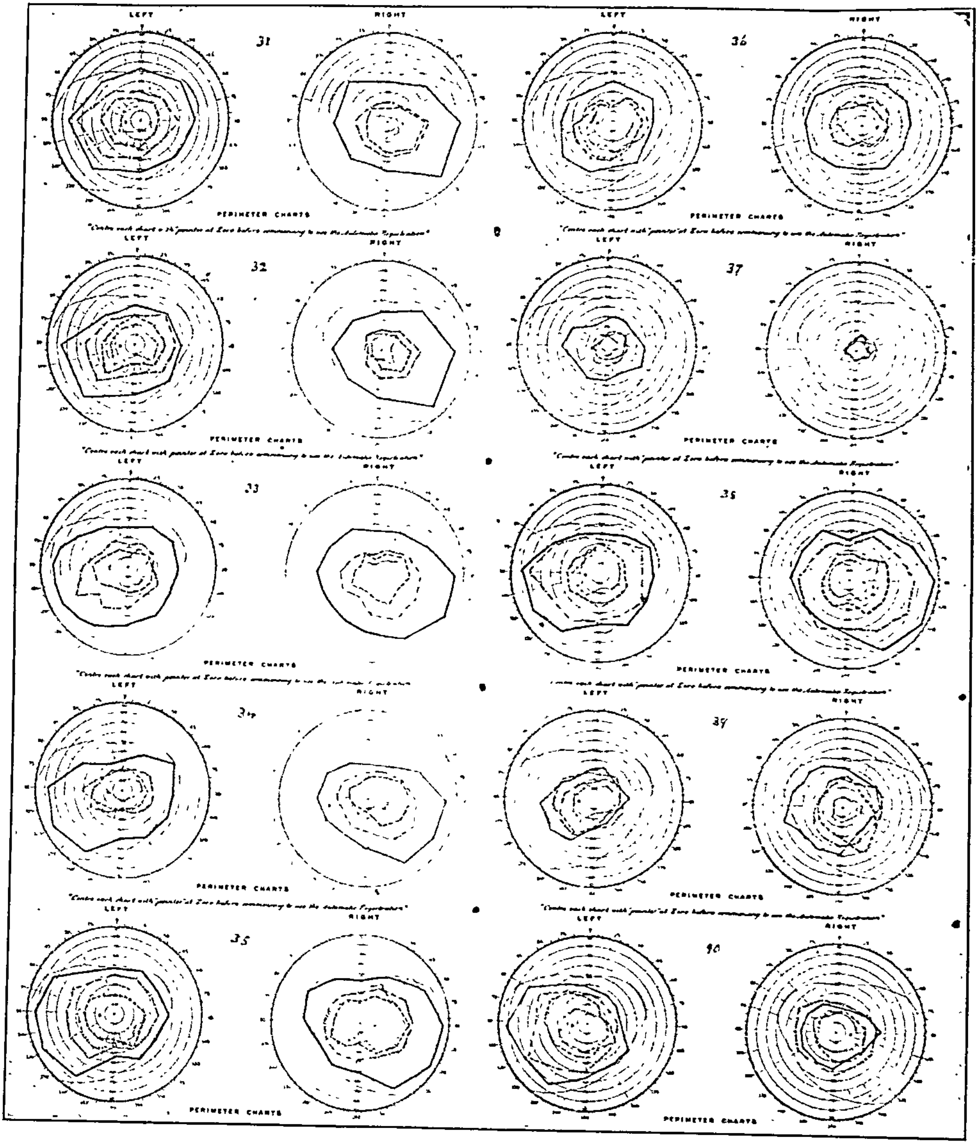

Fig. 4.—Visual fields in Cases 31 40.

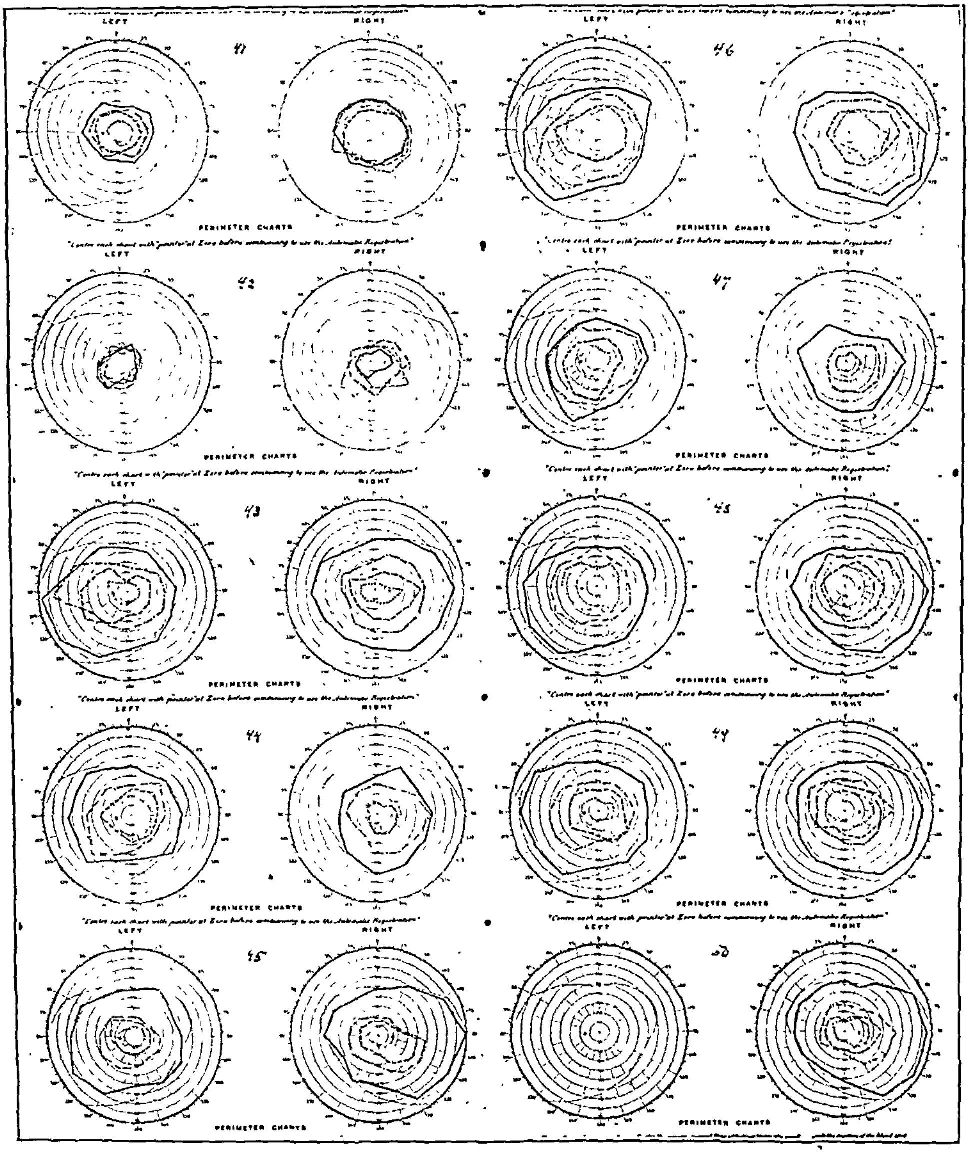

Fig. 5.—Visual fields in Cases 41-50.

exceeding great, although J. K. Mitchell and myself were unable to find it as frequently among hysterics whom we examined as would appear to be the case in the French clinics." Hansell and Sweet, speaking of the fields, say, "The predominant peculiarity of an hysterical contraction of the visual fields is that, while in every other disease where peripheral limitations occur the color field is affected in equal or greater proportion than the field for white, in hysterical amblyopia the field is less affected for colors than is the field for white. The field for red is apt to be less affected than the field for blue. This reversal of the order and extent of the field for white and colors is positive evidence of hysteria; it can not be simulated and it is caused by no other ocular disorder. It is readily determined and possesses a diagnostic value equal to the anesthesia of the glottis and pharynx so frequently referred to as pathognomonic of this neurosis."

Table 2.—Stigmata Found in Fifty Cases of Hysteria

Character of Field.	Stigmata Found. No.	%
1. Dyschromatopsia	36	72
2. Dyschromatopsia with general contraction	17	34
3. Dyschromatopsia with concentric contraction	15	30
4. Contraction of fields without dyschromatopsia	13	26
5. General contraction without dyschromatopsia	9	18
6. Concentric contraction without dyschromatopsia	4	8
7. Concentric contraction, irrespective of dyschromatopsia	20	40
8. General contraction, irrespective of dyschromatopsia	27	54
9. Amblyopia	4	8

The amount of the reduction in the visual fields varies from slight contraction to almost the fixation point. As was suggested by Janet, the amount of contraction has no direct relation to the acuity of vision, all hysterics being able to go about their regular life regardless of the limitation in the fields.

In Table 1 the stigmata at the head of each column are numbered and after each case is placed the numbers representing the stigmata found. A photograph of the field in each case is also attached.

An analysis of the fifty cases under discussion gives the result shown in Table 2.

CONCLUSIONS

1. Dyschromatopsia is more common than concentrically contracted fields in the ratio of 72 to 40.

2. There is no relation between the contraction of the visual fields and amblyopia, the former being present in 96 per cent. of the cases, while the latter was found in 8 per cent.

3. There is no constant relation between the areas of anesthesia and concentrically contracted fields. Of the patients with anesthesia 28.4 per cent. showed concentrically contracted fields, while 75 per cent. showed dyschromatopsia.

Note.—Not a single case of hysterical hemianopsia has been recorded in either the ophthalmologic or neurologic clinics of the University of Michigan.

The suggestibility of the patients was noted in but few of the cases; otherwise the records were complete.

I wish to acknowledge the assistance rendered me by Dr. George M. Waldeck in the compilation of these cases.

ABSTRACT OF DISCUSSION

Dr. E. C. Ellett, Memphis: A difficulty of no small moment is the care that is necessary to secure trustworthy perimetric observations. This becomes of less importance the larger the number of cases observed, unless the taking of the fields has been delegated, as the giving of anesthetics sometimes is, to the most inexperienced assistant. The length of time required, the mental instability of many of these patients, and the difficulty of holding their attention to the matter in

TABLE 1.—TABULAR VIEW OF OCULAR AND OTHER SYMPTOMS IN FIFTY CASES OF HYSTERIA

No.	Sex	Age.	Eye Symptoms. 1. Dyschromatopsia. 2. Contracted field. (a) Concentric. (b) General. 3. Amblyopia. 4. Scotomata. 5. Intermittent field. 6. Monocular diplopia. 7. Tubular vision.	Other Special Sense Symptoms. 1. Hearing: Hys. deafness. 2. Smell: Anosmia. 3. Taste: Partial loss. 4. Speech: Aphonia.	Sensory Symptoms. 1. Anesthesia of conjunctiva. 2. Anesthesias. 3. Graves' sign. 4. Allochiria. 5. Hyperesthesias. 6. Paresthesias. 7. Hypalgesias. 8. Hyperalgesias.	Motor Symptoms. 1. Paralyses. 2. Tremor. 3. Contractures. 4. Incoordination.	Paroxysmal Attacks. 1. Clavus. 2. Globus hystericus. 3. Epileptoid attacks.	Loss of Reflexes. 1. Absence of pharyngeal reflex. 2. Absence of plantar reflex.	Visceral Symptoms. 1. Vomiting. 2. Vascular and vasomotor disturbances. 3. Rapid respiration. 4. Cardiac disturbances. 5. Cough. 6. Yawning. 7. Phantom tumors. 8. Anuria.	Psychic Symptoms. 1. Hysterical amnesia. 2. Suggestibility. 3. Feeling of unreality. 4. Hallucinations 5. Hysterical trance.
1	F	15	1, 2-b, 3	....	2, 3	....	....	....	....	....
2	F	25	2-b	....	2, 5	...	2, 3	1, 2	....	....
3	F	16	1, 2-b	....	1, 2	....	3	1	....	...
4	M	..	2-a	....	1, 5	....	....	....	....	....
5	F	28	2-b	....	1, 2	....	...	2	....	....
6	F	43	1, 2 a	....	1, 2, 5	....	....	....	....	....
7	F	16	1, 2-b	....	1, 2, 3, 5	....	...	1	....	....
8	F	21	2-b	....	2, 3, 5	....	...	....	....	....
9	F	53	1, 2-b	....	1, 2 5	....	....	....	....	....
10	F	40	1, 2-b	....	1	....	..	1	....	....
11	F	29	1	....	1, 2, 3, 5	....	....	1	....	....
12	F	41	1	....	3, 7	....	...	....	....	....
13	F	47	1, 2-a, 3	...	6, 8	....	....	....	....	....
14	F	16	1	....	1	....	...	2	....	....
15	F	37	2-a	....	1, 2, 7, 8	....	....	2	....	....
16	F	35	1, 2-b	3	2, 3, 7, 8	....	....	....	....	....
17	F	17	2-b	....	2, 3, 7, 8	....	....	....	....	...
18	M	19	2-b	....	1, 6	2	3	....	....	....
19	F	51	1, 2-a	....	6, 8	....	....	....	....	....
20	F	16	1, 2-a	....	....	....	....	2	3	....
21	F	32	1, 2-a	....	....	....	....	1	....	....
22	F	17	1, 2-a, 3	....	2, 8	....	....	1, 2	....	....
23	F	14	1, 2 a	....	5, 8	....	....	....	1	....
24	F	..	1, 2-b, 6	4	1, 3, 8	....	1	2	4	1
25	F	48	o. s. 1, 2-b, o. d. 2-a	....	2, 6	....	....	....	4	....
26	F	33	1, 2-b	....	8	....	3	....	1	....
27	F	23	1, 2-a	4	1, 2, 3, 5, 7, 8	....	3	....	....	....
28	F	21	2-a, 7	....	8	....	1, 3	1	....	....
29	F	25	1, 2-b	....	1, 2, 3, 7	....	....	....	....	....
30	F	33	1, 2-b	....	1	....	....	....	....	....
31	F	59	2-b	....	6	....	2	2	4	....
32	F	16	1, 2-b	....	1, 2, 7	....	....	....	3, 4	2
33	F	48	1, 2-b	....	....	1	3	....	....	....
34	F	..	1, 2-b	....	6	2	1	....	....	....
35	F	13	1	....	8	1	3	....	1	....
36	M	29	1, 2-a	....	2, 5	....	....	....	....	....
37	F	53	1, 2-a	....	....	....	1, 3	....	....	1, 4
38	F	..	1, 2-b	....	6, 8	....	3	....	....	....
39	F	53	1, 2-a	....	6, 8	....	1	....	8	....
40	M	54	1, 2-a	....	7, 8	1, 2	....	....	....	1
41	F	35	1, 2-a	....	6, 7, 8	1	....	1, 2	....	....
42	F	39	1, 2-a	....	8	....	1	1	....	....
43	F	38	2-b	....	6, 7, 8	....	1, 3	....	....	....
44	F	10	1, 2-a	....	1	2	....	....	....	....
45	F	46	2-b	....	3, 5, 6, 8	....	....	....	....	....
46	F	..	1, 2-b	....	1, 6	....	....	2	....	....
47	F	30	2 a	....	8	....	1	....	4	....
48	M	19	1, 2-b	....	1	....	....	....	....	2, 5
49	F	19	1, 2-b, 3	....	1, 2, 5, 7, 8	...	1, 2	....	....	....
50	F	18	2-b	....	5	....	3	1, 2	....	....

hand are things familiar to us all. In looking over my records it seems that possibly on account of these things one is apt to confine his observations to the form field only, since we are told that contraction of it is one of the most reliable ocular symptoms of hysteria, and such records of course serve one poorly in such a discussion. The majority of my records are of patients seen for hysterical asthenopia, and in such cases the fields showed most often the general contraction referred to by Parinaud and others, and not always the reversal for colors. So that my experience, less in point of number of cases, and much less reliable in the thoroughness with which the observations were made, is not in accord with that of Dr. Parker. Not so much on account of personal experience, as on account of the difficulties of securing accurate results, I should say that we should be slow to accept a new view of this subject, a statement to which I am sure Dr. Parker will subscribe. Since the fact of great contraction of the fields has been questioned, especially by Binswanger, a case of traumatic hysteria might be mentioned where all colors were readily perceived. The fields, as shown, did not exceed 5 degrees in any direction.

Dr. Lucien Howe, Buffalo: I should like to know what perimeter was used, the way of using it, whether the same person was tested several times, and whether these fields were constant. We know that by simply changing the position of the head and not keeping the center of the eye practically in the center of the arc one can obtain almost any field desired.

Dr. Casey Wood, Chicago: Has Dr. Parker noted any relation between the decided fields of contraction for white and the peripheral amblyopia? We all know, when the field for white is very much contracted in organic disease and especially if it occurs in both eyes, the patient is more or less conscious of defective sight; he has decided symptoms of tubular vision. In my experience, no matter how small hysterical fields are, not only is the patient able too get about readily but he is not at all conscious of the defect in the field. In only one case, so far as the record goes, does Dr. Parker speak of tubular vision. I regard the manner and method of measuring hysterical fields of extreme importance, because, in my experience, one may discover almost any sort of field, so far as the contraction goes, in hysteria. The patient easily becomes tired after a little while and if the examiner is not very careful he may reduce the field to different sizes on different days.

Dr. G. E. de Schweinitz, Philadelphia: All manner of alterations in the visual field have been ascribed to hysteria, and the statements of observers have varied from those which maintain that concentric contraction of the visual field and inversion of the color line are diagnostic stigmata, to those of Babinski, for instance, which declare that this concentric contraction never occurs if the examinations are properly conducted. The characters of the true hysterical field are essentially the following: Concentric contraction is the insensibility of the field to white light, developing from the circumference to the center in such a manner that a graphic drawing of the contraction would be represented, to use the words of Parinaud, by an almost circular line, provided the word concentric is not taken in too literal a sense of the term. This contraction exists from the beginning, that is, it is not one which is developed during and by the process of examination; this contraction is usually, under ordinary conditions, an enduring one and does not materially change until recovery takes place; and the field is often a tubular one—in other words, the contraction maintains the same size, no matter at what distance the point of fixation of the examined eye is placed. The color field, also usually contracted, is not infrequently inverted, in the sense that the red circle exceeds in width the other color circles and may be in excess of that of white; very rarely this position is assumed by the green circle. Exceptionally, with or without the usual reduction of the white field, there is a greater extent than normal of the color lines, representing a form of hypersensitiveness to color reactions.

That a field of this character is an important help in the diagnosis of hysteria will be granted by most observers, and that it differs from the field in neurasthenia and other types of disease in which retinal tire is a prominent sypmtom, will probably also be maintained by most of those who have had experience in this line of cases, but because a visual field of this character is developed does not mean that the patient is hysterical. In other words, it is not pathognomonic of this affection. Fields exactly like it, or similar to it, may be found in Friedreich's ataxia; in hemorrhage into the internal capsule; in cases of brain tumor, as was long ago in the Charcot clinic and has since been confirmed by the observations of Bordley and Cushing; in cases of chronic headache, as I pointed out long ago, and in various toxemias, notably those of alcohol, lead, bisulphid of carbon and di-nitrobenzol. In connection with the last named toxemia Nieden's investigations will be remembered. Moreover, similar visual field phenomena have been observed in patients with epithelial xerosis of the conjunctiva and night-blindness. The point to be insisted upon is that the visual field of hysteria, that is to say, of pure hysteria, has distinct characteristics but is not pathognomonic, and it would be desirable if Dr. Parker would point out exactly what he means by amblyopia, and what the character of the concentric contraction of the visual field was in his cases, that is to say, whether it was developed as the result of repeated examinations, or appeared from the outset. I entirely agree with him that hemianopsia as an enduring phenomenon never occurs in hysteria.

Dr. C. H. May, New York: Recently I examined a considerable number of patients in whose fields neurologists and surgeons were interested, at Mount Sinai Hospital, especially following Dr. Cushing's investigations of the inversion of the color fields in patients suffering from cerebral tumor. The examination was interesting, and to a certain extent confirmed Dr. Cushing's views; in some of the cases there was inversion, in others there was none. In connection with these cases I took a great many fields for the purpose of control, with unexpected results; the number of control cases thus examined is not yet sufficiently large to make it worth while publishing—there have been but 50 or 60 of such examinations in which the work was carefully done. I found that in a few patients who appeared to be absolutely normal in every way, in whom hysteria had been excluded and in whom there was no ocular disease, there was inversion of the color fields. I agree with Dr. Howe that unless the perimetric observations are made very carefully, they are of no importance. If others confirm the findings concerning inversion of the color fields in normal individuals, this symptom will lose some of its importance as being indicative of hysteria.

Dr. Walter R. Parker: In regard to Dr. Ellett's experience in the taking of the fields in the cases that have come to him, if I understand him correctly, all of these patients were amblyopic; that is, had temporary loss of central vision, and are limited entirely to that class of cases which would not make a very broad conclusion possible from his experience. We could not fairly determine the nature of the fields in hysteria without taking patients in the general class of hysteriacs; not from amblyopic hysteriacs as Dr. Ellett has done. The McHardy perimeter was used. The element of error is always possible. The patients were instructed that they must keep the eyes directly to the front. The eye was carefully placed as nearly as possible on a level with the center of the perimeter. The field otherwise was taken in the regular way. I could not vouch for the detail of the field as presented here any more than I have stated. The few I saw were taken carefully, and I believe all of them were. Unfortunately, all these patients were not examined for tubular vision. I would answer this question from experience outside of this report of cases. All patients with tubular vision have hysteria and no matter how great the contraction of the visual field they can go about in their usual way. All the patients mentioned in this paper were sent to me as hysterics. The point that Dr. de Schweinitz made, that hysteria can not be diagnosticated from the field alone can not be too forcibly emphasized. I do not think anyone should make a diagnosis of hysteria from the fields alone except in cases showing tubular vision. Tubular vision can not be anything else but hysteria. The term hysterical amblyopia, as I have used it, refers entirely to loss of central vision. It is true in speaking of hysteria, that all organic disease should be eliminated, so also is it true in speaking of dyschromatopsia as a symptom of an organic lesion, that hysteria should be eliminated. The work was, I believe, carefully done, and I submit the results, having nothing to prove or disprove.

PITUITARY TUMOR IN ITS SURGICAL RELATIONS

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The physiology of the pituitary gland still presents many unsolved problems. Jakob Lewin[1] in 1906 summarized the situation as follows:

> For some (Roth, Widersheim, Corning, Strumpell) the hypophysis is merely a rudimentary organ which has no essential function. According to other authors (Schiff, Marinesco, Wolf, Gemelli) the function of the gland is essential to life. Regarding the character of the gland's function there is also divergent opinion. Wolf, for instance, believes that it is hemolytic, while Liegois insists that it is hematopoietic in action, and Oliver again insists that it regulates the blood pressure. The majority hold that the hypophysis is a ductless gland that has an influence over the nervous system, or has something to do with the red blood corpuscles, or finally that it neutralizes some substance harmful to the organism.

Paulesco, from experiments on dogs, also reaches the conclusion that the pituitary gland is essential to life, and his position is supported by Cushing.[2]

In the peculiar condition of acromegaly the changes in the bones and tissues generally are invariably associated with a tumor of the hypophysis or distinct changes in its parenchyma, but many cases have been reported in which there was a tumor of the hypophysis not attended by acromegaly. In the acromegalic cases it is quite evident that there is a material disturbance of the ordinary processes of growth and nutrition giving us gigantism if the condition develops before the ossification of epiphyses with the shafts of the long bones is complete, and the gorilla type when the condition develops subsequent to skeletal completion. It is now also possible to gather a group of cases in which it is evident that disease of the pituitary is associated with lack of general development, often with peculiar fatty conditions, and particularly with disturbance of the growth and function of the genital apparatus. Hudovering and Fuchs,[3] as well as a long list of observers, have noted that in cases of acromegaly impotence marked the men and amenorrhea was invariably among the women. H. Starck, for instance, reports a case of hypophysis tumor with acromegaly in a woman of 39 whose menses had disappeared eleven years earlier. Haushalter and Lucien[4] have pointedly called attention to infantilism in a case of tuberculous tumor of the pituitary. A child of 6½ presented the conditions of a child of 3. Biro[5] and Finckelberg[6] have noted general lack of development and particularly a retention of the infantile character of the genitals.

Fichero[7] reports that in the cases of a number of castrated bulls and cocks examination of the hypophysis detected that it invariably was enlarged in its anterior portion; he believes that there is some sort of compensatory relation between the genitals and the hypophysis. Nazari has also noted rudimentary genitals in a case of hypophysis tumor. E. Levi[8] reports two cases of infantilism in sisters, in both of which instances there probably was a pituitary tumor as shown by the excavation of the sella, apparent in the *x*-ray picture, but he does not seem to realize the relation between the non-development and the pituitary growth. Von Eiselsberg calls particular attention to the genital peculiarity in his first case of pituitary removal.

A. Frohliches perhaps first insisted on the relation of the hypophysis to general adiposity and genital atrophy, although P. Schuster had already published a list of such cases as being of a cerebral character. Erdheim, on apparently inadequate grounds, thought that the infundibulum was more precisely related to these physical changes. Pituitary changes in the adiposis dolorosa of Dercum are also found.[9] Recently O. Marburg[10] reports several observations tending to show a relation between general adiposity and the pineal gland. He would, however, group the cases of adiposity and genital atrophy associated with hypophysis affections into three classes: (1) simple adiposity; (2) adiposity with genital atrophy; (3) simple genital atrophy. To these, I think, we should add another, namely, general retardation of physical and especially of sexual development (Fuchs, Froelich, Stewart), as well as the clinical type of acromegaly. From every point of view the association of the hypophysis and the genitalia becomes evident and diagnostically significant.

Marburg further suggests that hyperfunction of the pituitary results in acromegaly; hypofunction produces general adiposity and genital dystrophy, while complete pituitary defect produces a severe cachexia, analogous to the cachexia of complete thyroid destruction or ablation. Marie, however, considered acromegaly as the result of reduced hypophysis function, while Massalongo, Benda and Starck feel that it is caused by increased action. On the other hand, Gauthier, Strumpell and Arnold insist that the acromegaly is the result of a metabolic disorder first showing itself in hypophyseal change. The contention of Benda appears to be most in accord with all the facts.

As I shall have occasion to note in the cases I am to report, this apparent dependence of genital growth and function on the pituitary furnishes us an important diagnostic set of symptoms and signs.

Regarding the symptomatology of hypophysis tumor when unattended by acromegaly, which when present is usually so pronounced as to make the diagnosis self-evident, we are confronted with a series of symptoms that may embrace all those of ordinary brain tumor, but commonly, and probably always at first, are restricted to a few. These, however, as I hope to show, are sufficiently definite so that, with the aid of the *x*-ray, the diagnosis may be made with certainty. Hypophysis tumor, when occurring in children, and not producing acromegaly, stunts the growth and the physical and especially the sexual development. The mental qualities may not be materially affected. Owing to the impingement of the tumor or its neck on the optic chiasm, vision is sooner or later impaired, and optic atrophy sooner or later develops. In the early period the atrophy is definitely limited to the nasal half of the disc and this is attended and even preceded by loss of vision in the corresponding half of the field. Bitemporal hemianopsia practically is always due to involvement of the posterior portion of the chiasm, and its detection leaves almost no doubt that it is secondary to disease of the pituitary gland. The rudimentary condition of the genitals or the loss of genital function in those who have once attained it, impotence in men and amenorrhea in women, have a very definite significance in this connection. To this may be added the occasional development of general adiposity and genital dystrophy, of painful adiposity and of acromegaly.

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[1] Lewin, J.: Inaug. Diss., Berlin, 1906.

[2] Cushing, Harvey: Some Principles of Cerebral Surgery. The Journal A. M. A., Jan. 10, 1909, lii, 184.

[3] Hudovering and Fuchs: Jahrb. f. Psychiat. u. Neurol., xxvi, 230.

[4] : Rev. Neurol., Jan. 15, 1908.

[5] ir. f. Nervenh., xxxiv, 227.

[6] Ztschr. f. Nervenh., xxxiv, 21.

[7] Fichero: Deutsch. Ztschr. f. Nervenh., xxxiv, 44.

[8] Levi, E.: Nouv. Iconog. de la Salpêtrière, October, 1908.

[9] Price: Jour. Nerv. and Ment. Dis., March, 1909.

[10] Marburg, O.: Deutsch. Ztschr. f. Nervenh., December, 1908.

The *x*-ray is capable of furnishing a picture which clearly outlines the sella turcica (Fig. 1), and any enlargement in this bony depression can be positively correlated with an increase in the size of the pituitary body. This was first clearly stated by Oppenheim in 1899. The *x*-ray pictures which I submit in connection with the records which are to follow, when compared with the picture of the normal sella turcica, show at once the value of this diagnostic procedure.

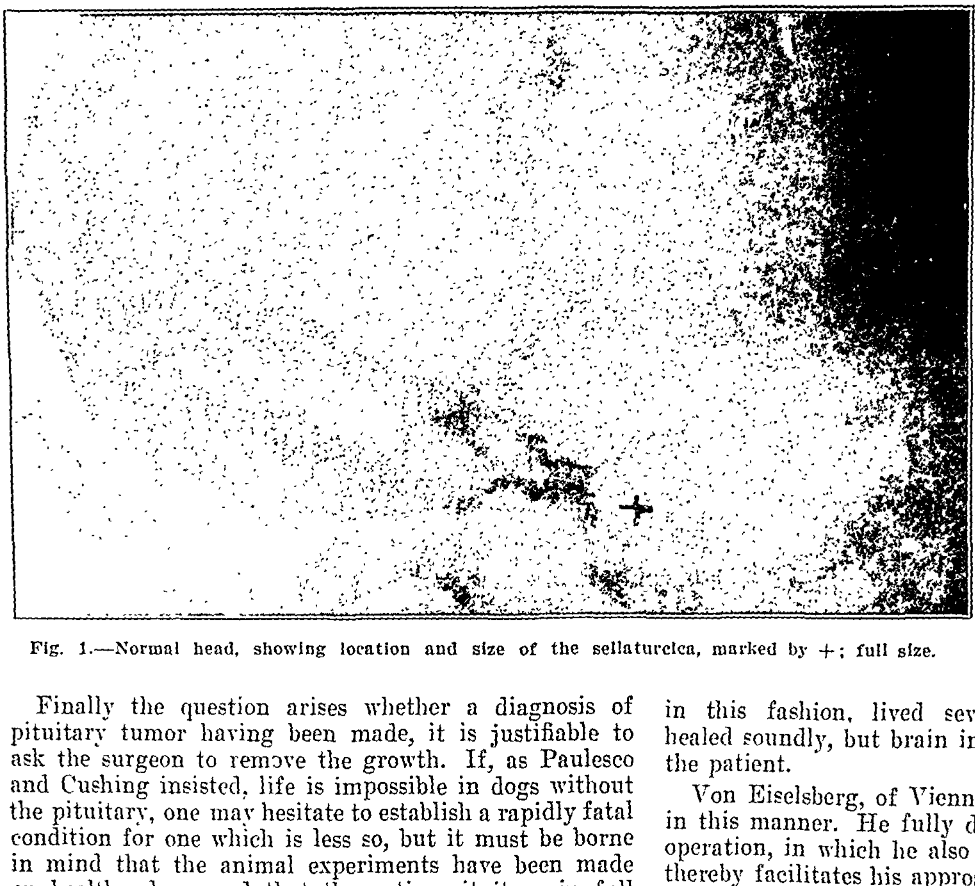

Fig. 1.—Normal head, showing location and size of the sellaturcica, marked by +; full size.

Finally the question arises whether a diagnosis of pituitary tumor having been made, it is justifiable to ask the surgeon to remove the growth. If, as Paulesco and Cushing insisted, life is impossible in dogs without the pituitary, one may hesitate to establish a rapidly fatal condition for one which is less so, but it must be borne in mind that the animal experiments have been made on healthy dogs, and that the entire pituitary in full functional activity has been at once removed. In diseases of the gland the impairment has been of gradual development, and it is not impossible that other analogous glands have assumed its function to some degree, or that the organism has become slowly habituated to its absence. It is also likely that, should it be proved that life is impossible without some pituitary function, this might be supplied by pituitary feeding in the same way that has proved so successful in the analogous relations of the thyroids and parathyroids. Besides, animal experiments are not always absolutely applicable to man. Most convincing of all is the fact that in a number of human cases the pituitary has been removed without any material danger to the life of the patient. Time perhaps as yet is not sufficiently long to justify the conclusion that the pituitary is not a vital necessity or that some substitution must be made for it.

The surgery of the pituitary is a new field that has been explored only to a limited extent. Sir Victor Horsley has operated in a number of cases of pituitary tumor; his plan of procedure is to make a large opening on one side of the head, preferably the right, and approach the pituitary from the side, the steps of the operation being similar to those for the extirpation of the trifacial ganglia. He advises me that he is shortly to publish his cases. The temporosphenoidal lobe is lifted by the use of broad spatula-like retractors, and the tumor is finally seen by its lateral aspect and incised or scraped out as the case may require.

A modification of this operation was done for me by Dr. L. L. McArthur, of this city, by making the incision in the scalp and skull farther forward, so as to approach over the orbital plate and under the frontal lobe as will be indicated in connection with the report of a case. This route also presented very serious difficulties.

A second method of operation has been developed by Schloffer[11] on the plan worked out by Tandler and Muscovitz. It consists in making an incision down the middle of the brow and along the lateral aspect of the nose, which is then reflected to the opposite side, the nasal bones being suitably divided. The septum of the nose is severed, the turbinate bodies removed, and finally the vomer leads directly to the base of the body of the sphenoid bone. On its removal nothing but a thin shell of bone separates the pharynx and the nasal space from the tumor (Fig. 2). Schloffer's patient, operated on in this fashion, lived seventy-five days; the wound healed soundly, but brain infection eventually destroyed the patient.

Von Eiselsberg, of Vienna, has operated in five cases in this manner. He fully describes[12] the technic of the operation, in which he also opens the frontal sinus and thereby facilitates his approach to the tumor. He credits this sinus opening also to Schloffer.

By this method Hochenegg has operated in two cases; the first patient, operated on over a year ago, according to a personal report from him, remains in excellent health. This was a case of acromegaly, and most interesting recessional changes have occurred in the enlarged proportions of the extremities, jaw, etc., thus practically proving the causal relation of the pituitary disease and the value of the operation.

Von Eiselsberg's first patient, operated on June 21, 1907, not only made an excellent recovery from the operation, but the very prominent symptoms of brain tumor subsided and the condition of the eyes even improved, so that at the date of the last report the pupil had regained its activity for light and vision was good enough to enable the patient to travel on the railways. Von Eiselsberg has reported three operations by this method.[13] He has also operated in one or two other cases which have not as yet been reported, including my Case 4, making five in all.

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[11] Schloffer: Beitr. z. klin. Chirurgie, 1906, i, 767; Wien. klin. Wchnschr., 1907, No. 21.

[12] Von Eiselsberg: Arch. f. klin. Chir., lxxxvii.

[13] Von Eiselsberg: Wien. klin. Wchnschr., 1909, No. 8.

In this country Cushing has operated after this method on at least one patient who was shown before the American Surgical Society at its annual meeting in Baltimore this year.

While the choice of operation is pre-eminently a surgical question, my own view is that the nasal route is the best. The pituitary tumor is practically extracranial, being located in its very definite bony receptacle below the level of the cranial floor until by abnormal growth it rises into the cranium. As shown by several of my radiograms the tumor actually descends into the sphenoidal sinus. As it lies so close to the nasal spaces, this route can under proper aseptic measures constitute a less disturbing avenue of approach than through the lateral aspect of the skull which necessitates such violent handling of the brain as seriously to imperil the life of the patient. To operate in two stages by opening the head on the opposite side from which the approach is to be made, as formerly suggested by Cushing, does not seem to me to constitute a material advantage. When the tumor is of comparatively small size, I do not believe it can be reached by the intracranial route.

It is, however, a fact that the nasal operation results in considerable facial deformity, a deep depression being occasioned at the root of the nose, but in a life-saving measure cosmetic considerations are of minor importance. Improved technic may also largely obviate this objection.

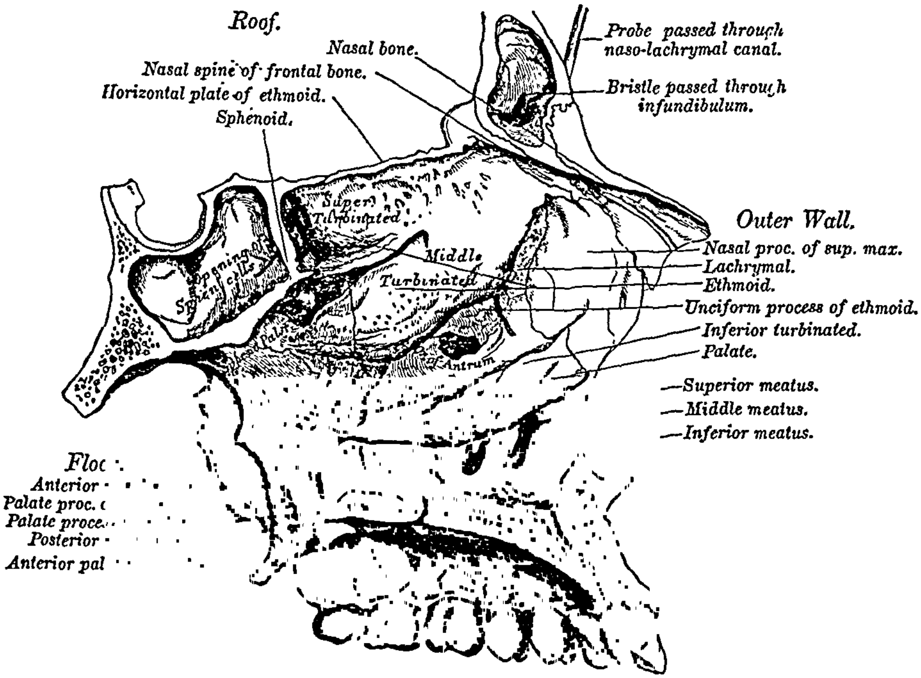

Fig. 2.—Relations of nasal spaces to the pituitary site (Gray).

Case 1.—*Patient.*—Mrs. W., a woman of apparently good health, 39 years of age, was referred to me by Dr. Casey Wood, Aug. 3, 1907.

History.—The patient never had any pregnancies, and for eight or nine years had not menstruated. This function began at the age of 14 and was regular for a number of years. Her past history was peculiarly free from illnesses of all sorts, with the exception of diphtheria at the age of 18, followed by a paralytic involvement of the pharynx, disturbance of vision for the near point, and some involvement of speech and of muscular power. Since that time she had not considered herself robust, although there had been no distinct illness. About a year before my examination of the patient she noticed some defect of vision when she tried to read, with a sense of strain in the eyes after reading or using them for a few minutes. This was worse by artificial light. Eventually she noticed that she could see better by turning her head to one side or by reading ahead of the place to which she directed her vision. This difficulty had been gradually growing worse in spite of the correction of hypermetropia by suitable glasses.

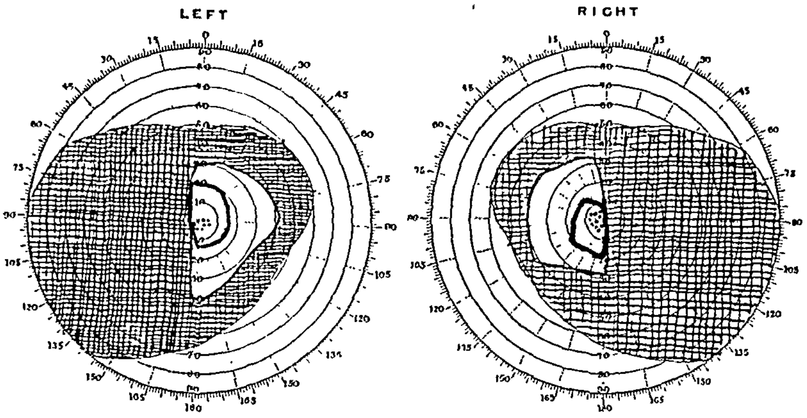

Fig. 3.—Bitemporal hemianopsia in Case 1. (In this, and in the following charts the field of vision for red, where shown, is outlined by a heavy black line; that for green by heavy dots; that for white by a light black line.)

Examination.—Dr. Wood reported her vision as 24/100 in the left eye and 22/100 in the right eye, but this vision was eccentric in both eyes. Pupillary reaction and the tension were normal. The fundus showed a diffuse, gray-white discoloration of both nerves. The field of vision for white and colors exhibited a well-marked bitemporal hemianopsia (Fig. 3) with some regular limitation of the periphery of the fields of the preserved sides. Examination of nasal cavities and the throat presented nothing abnormal. General physical examination also showed nothing abnormal. An *x*-ray picture was made by Dr. Max Reichmann, who reported an evident enlargement of the sella turcica, with a faint shadow that indicated to him an enlarged hypophysis. Unfortunately, this plate has been lost. The patient presented no evidences that were in the remotest degree suggestive of myxedema or acromegaly. This patient subsequently visited Dr. Pagenstecher at Wiesbaden, at whose instance another *x*-ray picture was made, from which Figure 4 has been prepared. It shows a distinct enlargement of the sella. At the present time the patient considers herself entirely at a standstill and refuses any suggestion of treatment of operation.

Summary.—The patient's menstrual history, double temporal hemianopsia, optic atrophy, and the *x*-ray picture sufficiently establish the diagnosis of pituitary tumor.

CASE 2.—*Patient.*—In April, 1907, I saw in consultation with Dr. J. P. Webster, Master W., a boy of 14, who appeared very small and frail for his years.

History.—On both sides his parents and ancestors were sturdy people. He was born without difficulty after a natural labor. During the first three and a half years of his life he is said to have been a robust and active child. At that time he had a very severe attack of whooping cough, in the paroxysms of which he would frequently have hemorrhages from the nose and mouth. During the course of the whooping cough diabetes supervened, with the urine sometimes amounting to four pints in eight or nine hours, and a corresponding thirst. At one time there was suppression of the urine for sixty hours. As the whooping cough subsided, intense headaches were complained of and were sufficiently severe to apparently stupefy the child. At this time he was submitted to circumcision and nearly lost his life as a result of secondary hemorrhage. As he began to get about, it was noticed that there was some difficulty of sight. The headaches recurred in paroxysms and were attended at times by vomiting. These attacks of headache and vomiting have occurred at intervals of a few weeks or months ever since, frequently terminating in nose bleed with apparent relief. About two years before my first examination in such a severe attack it was noticed that he was partially paralyzed on the right side, especially the right hand. This disappeared in a few days. About that time double optic atrophy was observed, with evidence of what appeared to be former retinal hemorrhages. The deep reflexes were said to have been abolished. Sensory conditions were apparently normal and speech was not affected. There was some transient weakness of the right side of the face. About a year later he had a similar attack, terminating in the same manner, and during the two years before the examination a protracted right sciatica gave him a great deal of suffering and a secondary scoliosis developed. There was also some pain in the sciatic distribution in the left side. His mentality apparently never suffered. Manual dexterity and readiness were extremely good throughout, with the exception of the two attacks in which he lost some control of the right hand. Reflexes were generally very much reduced or abolished. Owing to the defect of vision, his schooling was interrupted and he read with visual difficulty. Repeated examinations of stomach contents and blood have detected nothing abnormal.

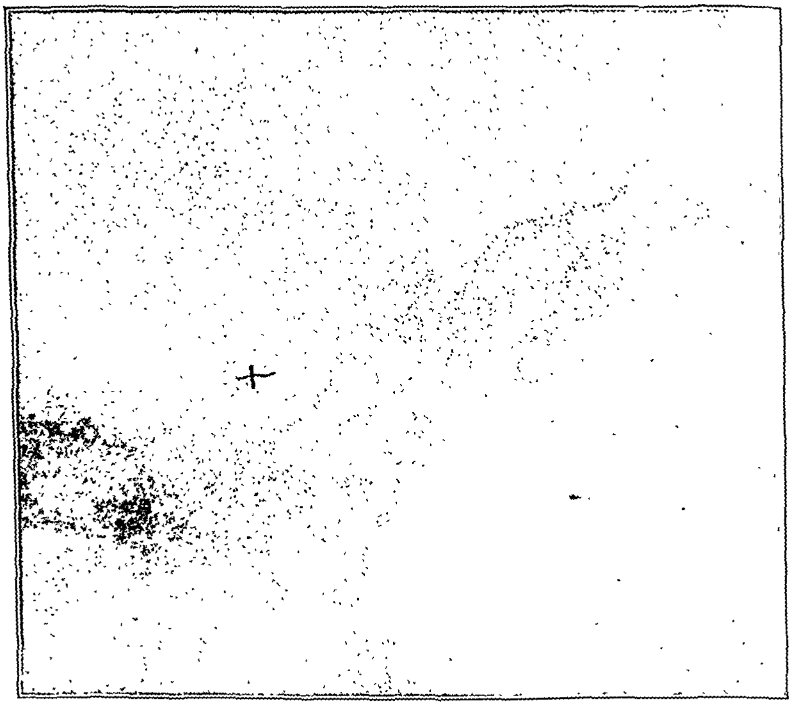

Fig. 4.—From radiogram in Case 1, full size, showing enlarged sella turcica, marked +.

Examination.—At the date first mentioned the knee-jerks were present and slightly exaggerated, the left knee-jerk being more active than the right. The heel-jerk was present on the right side; left one could not be elicited. There was no Babinski. Hearing on the right side was reduced for the watch to one inch. On the left side he heard it at four feet. Commonly the patient presented a subnormal temperature, but during paroxysms of headache and vomiting his temperature sometimes reached 99. There was slight ataxia of all extremities but more particularly of the legs. One time he complained of pain located on the left side, back of the ear, in the occipital region, and there was some local tenderness. A competent oculist reported that the patient's left eye was apparently blind, while the vision in the right was 1/6. Pupillary reaction in the right eye was normal, while the left responded only for accommodation. The right field was reported to be decidedly contracted and irregular, and the greatest contraction of the field was on the temporal side (hemianopsia). There was evidence of neuritis, with exudate in both retinæ, the discs showing white atrophy.

In this patient I suspected cerebellar disease, and as the family were going abroad he was referred to Sir Victor Horsley, who kindly wrote as follows, under date of May 7, 1907, and furnished the skiagram from which Figure 5 was made:

"It appeared to me at first examination that the atrophy (optic) was primary and that the pigmentary conditions of the fundus were congenital and possibly specific; if the last, then in the third generation. The only positive signs besides the right hemiparesis were the temporal hemianopsia and the disc change. At the same time I was struck by the patient's attitude, and before making a lumbar puncture sent him to my colleague, Dr. Worrall, for a radiogram of the skull base and spine.

"To our astonishment the photo (Fig. 5) showed very clearly a pituitary tumor at once and that in its periphery were shadows which I recognized must be calcareous plates in the wall of a cyst, as I had met with this before. The lumbar puncture showed a cystic figure even below the normal and inoculation with it so far negative in guinea-pigs.

"The disc condition, the fields and the history were now fully explained. I therefore, after fully consulting with Dr. Webster, decided to tap the cyst, but not attempt its removal in view of the condition of the boy. On raising the temporal lobe by the method I have elsewhere described the cyst was found. I laid the cyst open by a free incision. It contained about an ounce of brown chocolate-like fluid. The cyst was washed out with sublimate and sponged. Explored with a sharp spoon, the calcareous deposit was felt.

"The brain was definitely hydrocephalic. The descending cornu of the (softened) temporal lobe gave way under the retractor and released the intracranial tension notably.

"The wound has healed well and the boy has to-day gone out for a drive (ten days after operation).

"As regards now his future: Of course, hemorrhagic cysts do not tend to fill again. Therefore, the pressure on the tracts ought to be relieved and the boy's sight saved. At the same time this is the first cyst (non-suppurative) that I have done and it is not possible to dogmatize on such a subject.

"If at any time there was evidence of re-established pressure it would be (now) quite possible to pass an aspirator needle with suitable precautions and very little risk into the cyst."

Postoperative History.—The patient made a satisfactory convalescence from the operation and returned to this country, showing a fluctuating state of health. At the site of the operation wound, a pulsating tumor developed, apparently containing cerebrospinal fluid. When this would become tense the boy would become stuporous with intense headache, sometimes with vomiting, and after a few days this condition would subside and he would resume his ordinary activities. The family refused to have even a spinal puncture made, which was advised in the hopes of relieving the intracranial tension, and eventually the boy died about eighteen months after the operation. No postmortem examination was allowed.

Summary.—In this case without any evidence of acromegaly but with very decided retardation of the features that mark sexual differentiation, an entire absence of pubic hair and infantile genitals, the eventual diagnosis of the condition turned upon the *x*-ray picture. A brilliant operation, under more favorable circumstances, might have resulted in the complete cure of the patient, with, of course, such visual disability as was dependent on the atrophy. The relation of whooping cough with nasal hemorrhage to the pituitary hemorrhagic cyst is apparently plain when the clinical history is reviewed. The diabetes is also of significant interest.

CASE 3. — *Patient.*—Miss T. was referred to me by Dr. John M. Knott of Sioux City, Iowa, Feb. 25, 1908. She was 25 years of age and presented the appearance of excellent health; was of good color and well nourished, and with no appearance that would suggest any glandular or other difficulty.

History. — She presented nothing abnormal in infancy or childhood. Her first menstruation occurred at 11 years and continued regularly until she was nearly 18 years of age, when at boarding school she became anemic and had iron, etc., with full recovery. At 22 she ceased to menstruate and the flow was never re-established. At the time she ceased flowing her health seemed to be perfect. There were no local conditions that in any way bore on the menstrual function. Two years before the date first mentioned she began to have trouble with her eyes and a specialist in Cincinnati treated her for a year, considering the eye affection to be a nervous derangement attributable to menstrual suppression. In the summer of 1907 vision began to fail again. Dr. Powell of Sioux City then took the eye condition in hand. He wrote, under date of Feb. 26, 1908, as follows:

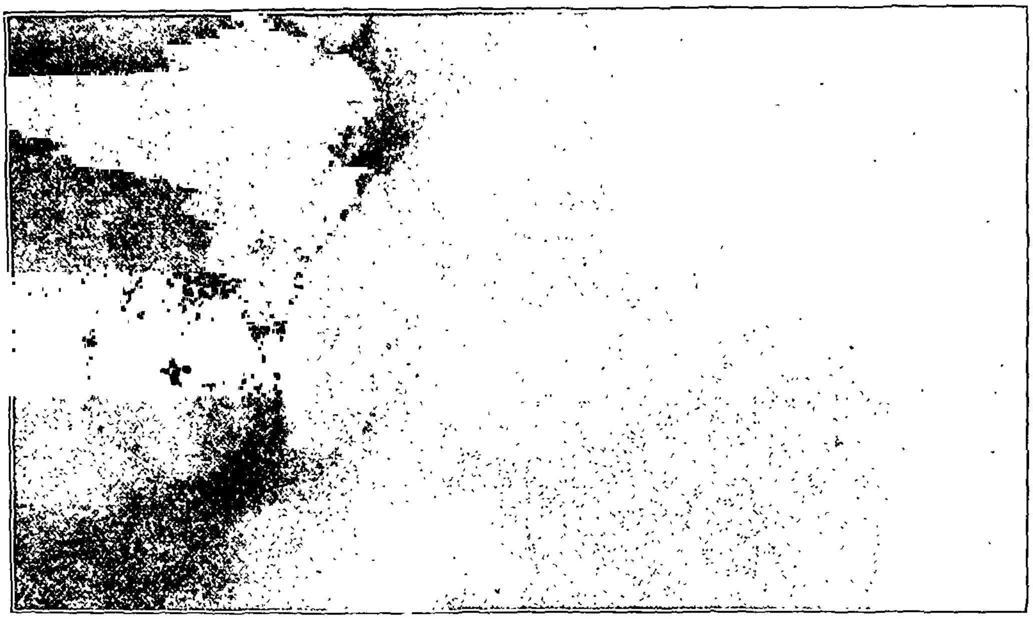

Fig. 5.—From radiogram in Case 2, showing greatly enlarged sella turcica marked + and shadows of a calcareous walled cystic tumor of the pituitary.

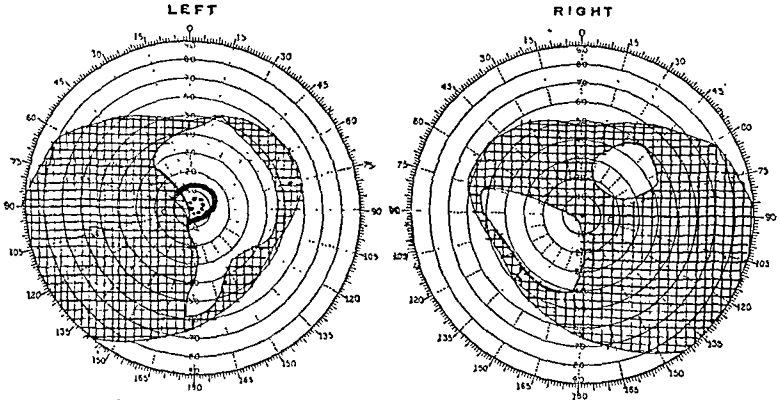

Fig. 6.—Tendency to bitemporal hemianopsia in Case 3.

"Miss T. . . . first consulted me for headaches several years ago. At that time it was decided that she had a moderate amount of regular astigmatism, the correction of which gave her normal vision, and as far as I know the lenses were used off and on, according to the necessities of her work, with considerable, if not complete, relief of all discomfort. But last October she came to me complaining of inability to see well and of diplopia. Examination revealed paralysis of the left external rectus and much deterioration of her sight. It was learned that the muscle became paralyzed in August, 1906, and at that time her vision was normal in both eyes; and later, in February, 1907, it was known that her sight was still normal. This report was made by Dr. Hunt, who examined her eyes in Cincinnati. So between February, 1907, and October of the same year her sight failed very rapidly, more in the right eye, and since that time has been decidedly poorer. The interior of the eye presented no symptoms except vascular changes, the veins being larger than normal. There is considerable change in the fields of vision. We have done everything possible to discover the cause of her trouble and have been unable to do so. Examination of blood, kidneys, etc., is practically negative."

Under general management by Dr. Knott her blood, which showed a simple anemia, improved and she gained some weight. Potassium iodid was given in large doses, but the vision continued to fail, one eye being much worse than the other. Finally she was submitted for an examination to Dr. Frank Allport of Chicago. This examination resulted in the following report, dated Feb. 29, 1908:

Ocular Examination.—"I find vision in the left eye to be 20/70; vision right eye 2/200. I send you a copy of her field of vision chart (Fig. 6). Please note the peculiar visual islands on the right side, and the substantial contraction of the left side. Notwithstanding these well-marked visual field changes, I would be unable to state that either of her optic nerves presented an abnormal appearance; they are possibly a little whitened and the edges, especially on the right side, are possibly a little hazy, but if I should see these nerves without any knowledge of the case I should call them normal-looking nerve-heads. Dr. Woodruff has examined her with me, and we both feel the same way about it. Dr. Guilford is also of the same opinion. This is a most interesting case and I shall be obliged if you will let me know the outcome. In view of the healthy appearance of her nerve-heads I should have great hopes of restoration of vision, provided the growths which are producing the pressure are removed."

The fields of vision are suggestive of a bitemporal hemianopsia, and an *x*-ray picture was made by Dr. Reichmann which shows (Fig. 7) a tremendous excavation of the sella turcica so that it appears large enough to contain a good-sized English walnut.

Operation.—The patient was referred to Dr. L. L. McArthur for an operation for the removal of a pituitary tumor. This operation was done March 5, 1908. The skull was opened on the right side in order to avoid the left side cortex for speech. The opening was made well forward in the frontal region, the line of incision commencing at the external orbital process and extending upward and backward semicircularly and terminating above the right ear. Considerable intracranial pressure was found, though I have frequently seen much greater evidence of intracranial pressure. When the dura was incised, the brain presented nothing abnormal, but proved to be very friable. Great difficulty was encountered in reaching the tumor. In the attempts to raise the frontal lobe for the purpose of following along the wing of the sphenoid to the sella, considerable laceration resulted to the brain tissue. The operator eventually reached the pituitary tumor, which he found to be bean-shaped in outline, lying transversely in the sella, and feeling to be 1¾ inches in length and 1 inch in thickness. After about two-thirds of this growth was enucleated, it broke down, giving issue to a considerable amount of fluid contents which escaped with the blood and cerebrospinal fluid and could not be preserved. Apparently the tumor was cystic and was suspected to be a cystic adenoma. The patient's condition was unsatisfactory and the operation was terminated.

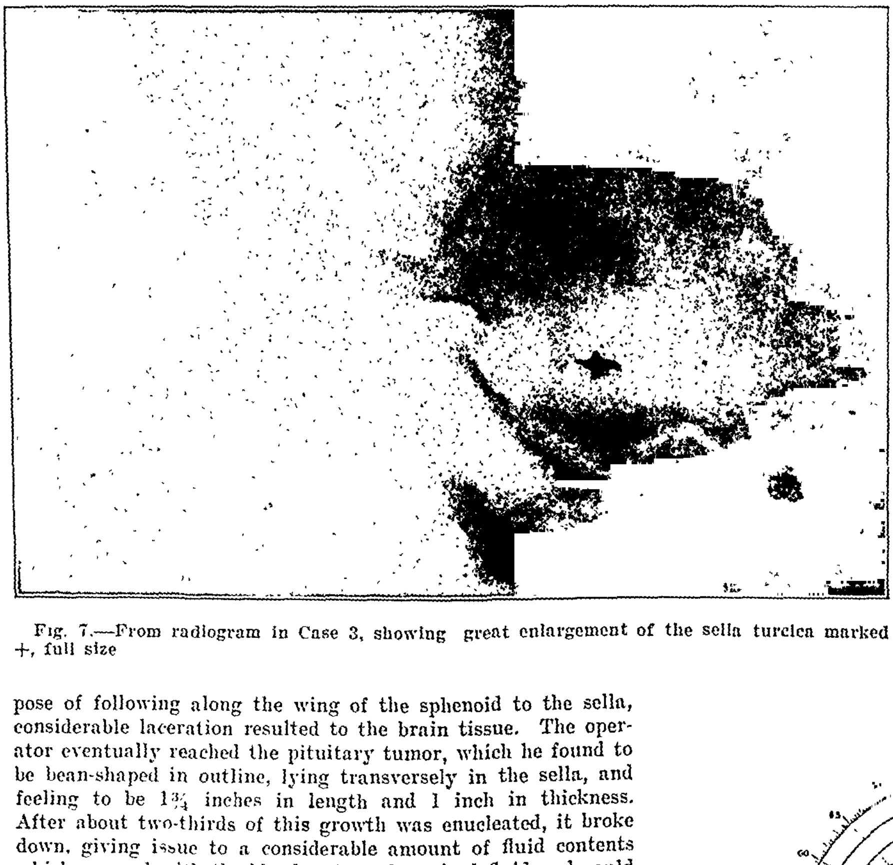

Fig. 7.—From radiogram in Case 3, showing great enlargement of the sella turcica marked +, full size

She seemed to be rallying nicely from the operation and anesthetic, but at 12 o'clock that night suddenly collapsed and died. No postmortem investigation was permitted.

Summary.—In this case the cessation of menstruation, significant visual fields pointing to bitemporal involvement, and the *x*-ray picture made the diagnosis an easy one. Great excavation of the sella, as shown by the *x*-ray picture, indicated that the tumor could have been easily approached through the nasal spaces and probably could have been evacuated with little difficulty and its wall perhaps scraped out with more or less completeness. Probably this is the first case in which a tumor of the pituitary was diagnosed and operation for its specific removal done in this country.

Case 4.—*Patient.*—A. M., 36 years of age, tinsmith by trade, married, with a number of healthy children, was referred to me Oct. 17, 1908, by Dr. Frank Allport, who made the statement that the "vision of the left eye was entirely lost, vision of the right eye reduced to 24/40, and not benefited by lenses. The left optic disc entirely atrophied, right optic disc white. Vision was considered normal until five months ago, when he noticed that the sight of his left eye was gradually failing, until at the end of three months it was entirely lost. In the beginning he had intense left-sided headaches every day; during the past two months headaches have been less. His field of vision (as shown in Fig. 8) shows a sharply defined temporal hemianopsia of the right eye."

General Examination.—Aside from the conditions in the eyes nothing abnormal was detected. The patient, however, stated that he had been impotent for about a year. An *x*-ray picture (see Fig. 9) clearly demonstrated an enlargement of the sella turcica. Operation was advised and arrangement had been made for it at Michael Reese Hospital, when the patient was dissuaded by one of our local ophthalmologists. The patient's wife having lived in Vienna, he finally reached the clinic of Professor Fuchs, where the condition was recognized. Dr. E. V. L. Brown of this city happened to be present in that clinic at the time and first called my attention to the facts. The diagnosis of pituitary tumor having been confirmed, he was referred to von Eiselsberg for an operation.

Operation.—This was done Jan. 16, 1909, and, as reported by von Eiselsberg[13] in the *Wiener klinische Wochenschrift*, and confirmed to me by personal communication, was the most difficult of the five that he had operated by the nasal route up to that time. A true hypophysis tumor was lacking. He says: "Finally, however, the hypophysis was uncovered and found to be changed into a large tumorous mass which was practically all removed. The pathologic examination showed it to be a malignant epithelial neoplasm. The postoperative course was not disturbed during the first days except by a moderate increase in temperature, and the outer wound healed by first intention. The patient, however, caused great anxiety by a pronounced stupor; the development of brain abscess was feared. This, however, subsided, and the patient recovered."

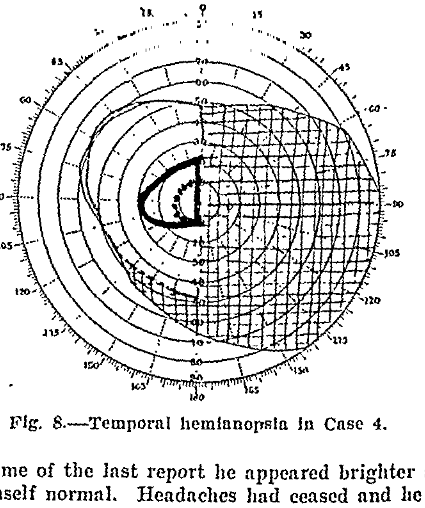

Fig. 8.—Temporal hemianopsia in Case 4.

At the time of the last report he appeared brighter and considered himself normal. Headaches had ceased and he thought his vision was better, but this could not be proved objectively.

Case 5.—*Patient.*—L. B., schoolboy, aged 14, was referred to me Feb. 26, 1900, by Dr. H. B. Favill.

History.—His family history presented nothing notable. This boy was one of five healthy children. He had presented no serious illness, but had trouble with bed-wetting and pavor nocturnus in his younger years. Two years before, Dr. M. R. Brown had removed a nasal septal spur and some large polyps which occluded the nasopharyngeal passages. At the present time the nasopharynx is practically negative. For a year the patient has noticed difficulty in seeing; could not clearly see the clock-face across the room or follow the flight of the golf-ball. In October last he complained of foggy vision and consulted Dr. William H. Wilder, who gave me the following report:

Ocular Examination.—"Aug. 4, 1900, he was seen by Dr. Allport, who made an examination of the eyes and corrected the refractive error that exists, represented by the lenses he is now wearing. I have Dr. Allport's history of the case; he states that when he first saw the patient last August the vision of each eye was 20/20. Oct. 22, 1900, he again visited Dr. Allport, complaining of temporal headaches and of impairment of his sight. He again examined the vision and found, with the correcting lenses, that it was 20/20, although the boy tells me that at the time the vision was foggy. I first saw him Dec. 15, 1900, and my notes show that R. V. equal 20/80; with the lens similar to the one he is now wearing, it was improved to 20/40. His L. V. was 2/200; with the lens similar to the one he is now wearing it was not improved at all. L. stated to me at his first visit that the sight of the left eye became rather suddenly dim about two months before, or October 15. You will observe that I took a charted field of the right eye, December 18 (Fig. 10) and at that time there was no hemianopsia, but later this condition developed, as shown in the field taken Jan. 14, 1901 (Fig. 11), and it continues up to the present time. The retina of the right eye becomes easily fatigued. The vision of the right eye fell rather suddenly, and on December 18 it was reduced to 20/60. On January 26 it was reduced to 20/100. On February 6 to 20/200. On February 20 I found the vision slightly improving, being represented by 20/80, while to-day it is 20/100. This, of course, means with appropriate correction. It has never been possible to take a satisfactory field of the left eye. When I first saw him there was only one small sector upward and inward where he could perceive even hand movements, and yet he was able to see about 2/200. At no time has he had any evidence of optic neuritis; nor do I call the very slight pallor of the left optic disc abnormal. It seems to me to be due more to the physiologic excavation which there exists. At no time have I been able to demonstrate local anesthesia of the cornea or the lids, monocular diplopia or micropsia. The boy's physical condition is excellent, and for the last ten days he has had no headache with the exception of one. He has had at times dull headaches through the temples. The tests for simulation or malingering with the Snellin colored letters have been constantly negative."

General Examination.—The boy presented a very excellent physical condition, being up to his years in all respects. There was some vasomotor disturbance of the skin and tendency to factitious urticaria. In all other respects he seemed normal.

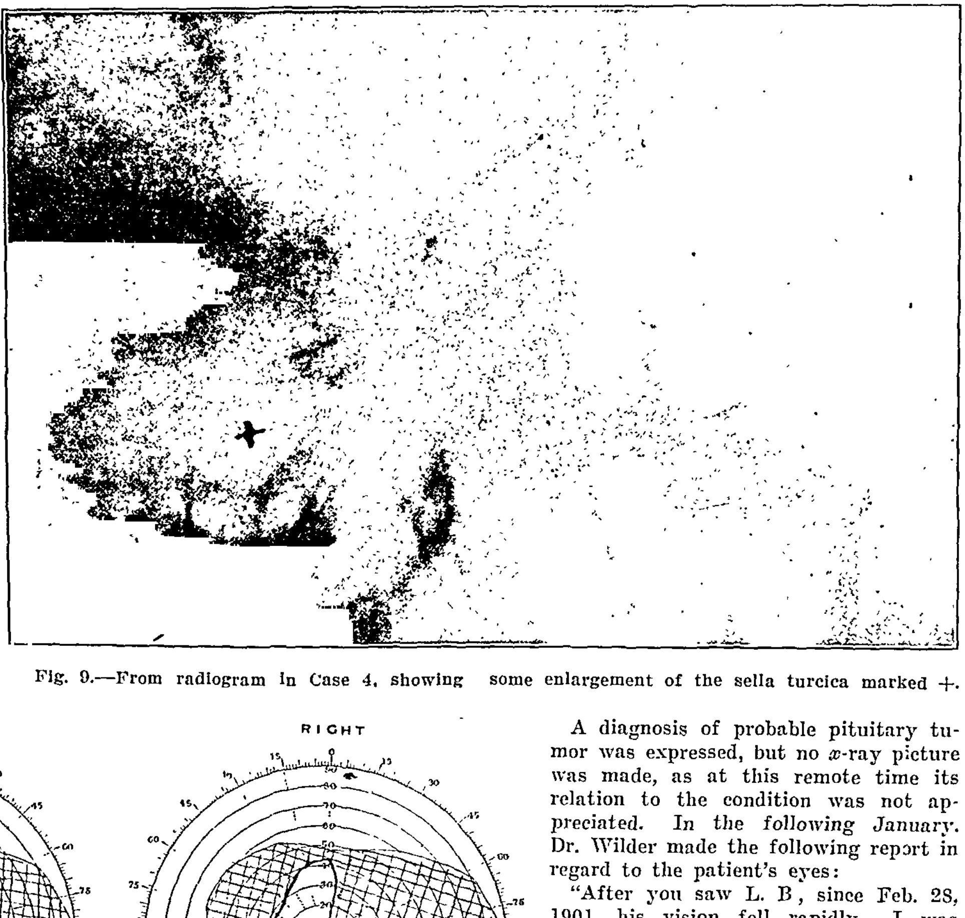
Fig. 9.—From radiogram in Case 4, showing some enlargement of the sella turcica marked +.

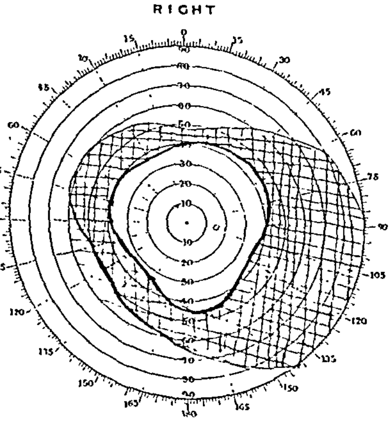

Fig. 10.—Contracted field early in Case 5, Dec. 15, 1900.

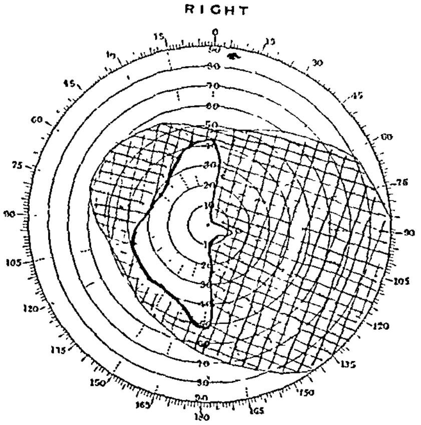

Fig. 11.—Hemianopsia in Case 5, Jan. 14, 1901.

A diagnosis of probable pituitary tumor was expressed, but no *x*-ray picture was made, as at this remote time its relation to the condition was not appreciated. In the following January. Dr. Wilder made the following report in regard to the patient's eyes:

"After you saw L. B, since Feb. 28, 1901, his vision fell rapidly. I was able, also, to demonstrate the Wernicke hemiopic pupil on March 6, 1901, and on that day his R. V. was 20/100 and his L. V. fingers at eight feet. He was given large doses of potassium iodid by Dr. Favill with apparently no result. Not until early in April did I feel positive that there was atrophy of the optic disc, and then it developed rapidly. He did not suffer from headache or pain, but after that date his vision became rapidly less. There seemed to be no question that our suspicions as to the trouble being a chiasm lesion were well founded. Early in May they visited New York and consulted Dr. Knapp, from whom I received a letter May 9, in which he stated that there was in all probability a growth pressing on the chiasm, probably originating in the hypophysis. Knapp inclined to the belief that this growth was a sarcoma, and he says he would advise an attempt at its removal were it not that the majority of such cases are sarcomatous. Fenger also saw the case, but no operative attempt was ever made. The constitutional treatment with mercury and potassium iodid seemed to accomplish nothing and he has gone on to complete blindness. I think no other symptoms have developed, although I have not seen the boy in months, but I have seen his brother within the last few weeks, and he informed me that L. was quite well, did not suffer at all, was bright and cheerful, and mentally apparently all right, but was totally blind."

Later History.—From this time on until the boy's death, which occurred about a year ago, he remained practically unchanged, with the exception that convulsions developed which would occur at varying intervals, of a generalized and severe character. Also at times there was decided headache and some vomiting perhaps of a cerebral character. His mental qualities were unaffected except in so far as his blindness cut him off from educational opportunities. Physically, while he grew reasonably tall, he remained infantile in conformation and the genitals never developed, nor as far as could be learned was there any establishment of the usual genesic tendencies. The beard and pubic hair never grew. His death occurred at a small place in the south, rendering a postmortem investigation impossible.

Summary.—The history of this case, the hemianopsia, the atrophy of the optic nerves, the failure of the development of the genitals, beard, etc., combined with diffuse symptoms of brain tumor, make it quite evident that there was a pituitary growth, and that operation undertaken at an early date might have saved both vision and life.

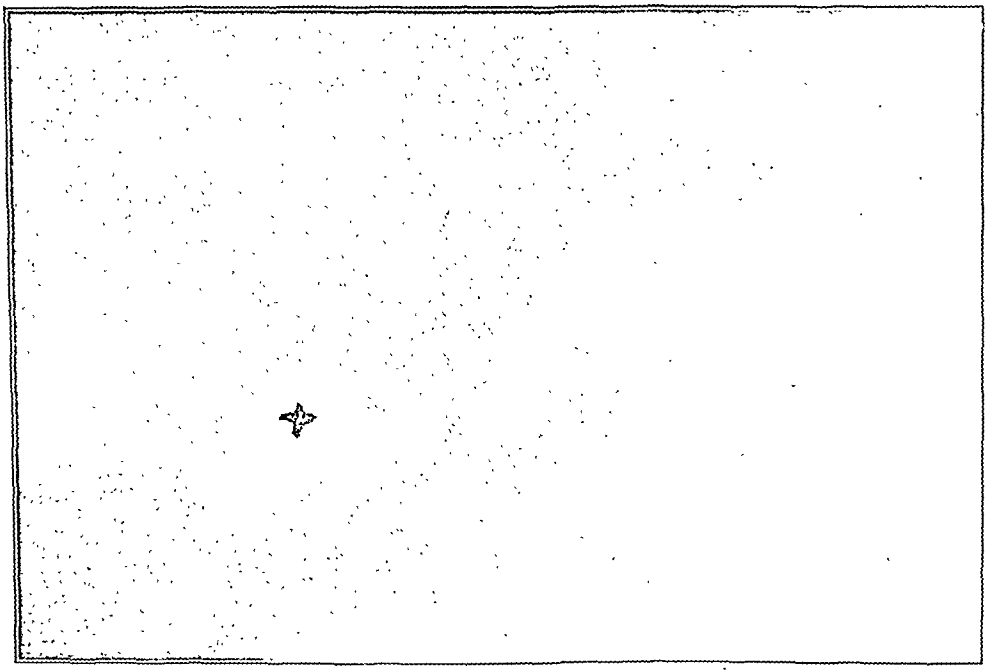

Fig. 13.—Radiogram in Case 6, showing excavation of sella turcica marked +, full size.

Case 6.—*Patient.*—W. R. H., aged 33, father of three children, of good family and one of six brothers and sisters all in good health, came to Chicago to consult Dr. Casey A. Wood regarding progressive blindness. By him he was referred to Dr. Arthur R. Elliott, who kindly allowed me to see him incidentally, and both these men have furnished me with their notes in the case. Aside from grip in 1890 and frequent sore throats and long standing nasal catarrh, the patient personally presented nothing of medical significance. His occupation had been an active outdoor one and his habits good.

History.—Beginning about six years before time of examination the patient noticed failure of vision in the right eye. This at first was confined to the outer half of the visual field, but subsequently the inner portion also failed, and at present he is totally blind in that eye. One year before I saw him the left eye became similarly involved, the progression of sight disturbance being the same. At the time of examination the outer half of the left visual field is blind. Of recent months he had had a good many darting pains back of the right eye and had had toothache, for which several teeth have been extracted without material relief.

General Examination.—The patient showed a ruddy, clear complexion and a general appearance of good health. Aside from some irritation in his gums and offensive breath, the physical examination was practically negative. There was no infection of the nasal passage or sinuses. His muscle reflexes were all exaggerated, perhaps because of a course of strychnin in large doses. There was no incoordination or pupillary disturbance. Pulse, chest organs and abdominal organs were normal; genitals normal. His sexual power was only moderate and his physical strength was much less than one would expect in an individual of his proportions, and was less than it used to be.

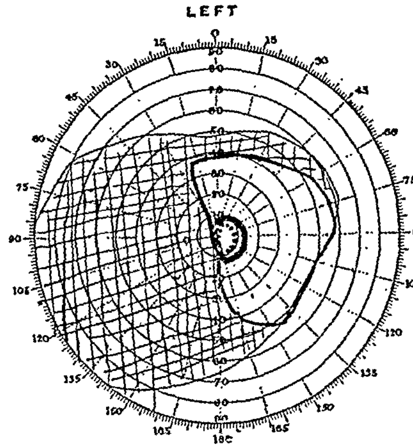

Fig. 12.—Fields of vision in Case 6.

Ocular Examination.—Dr. Wood reports as follows: "His ocular history shows that with the exception of wearing glasses during the past six years for improvement of his near vision, he did not notice any difficulty about seeing until six years ago. At that time vision in his right eye began to fail and in a year or so he was unable to read ordinary print. The record of Dr. Goode shows that in the early stages of visual failure he had V. L. = 20/15 and V. R. = 20/30. He was conscious of the failure in sight occurring in the temporal field of the right eye until a year ago, when it was reduced to light perception. Within the past year he noticed the sight in his left eye failing—to the temporal side of the meridian line—just as in the case of the right eye. This obscuration of vision took the shape of a dark spot which grew larger and larger until one-half of the field was cut off. For more than a year he has had shooting pains in the temples, as well as in the right eye, extending to the center of the head. The tension of both eyes is normal and the pupillary reactions of the left eye are active. There is no perception of light in the right eye, but the left has 20/15, and J. 1, with a fair accommodation range. Wernicke test not applicable. The fundus examination shows well-marked gray atrophy *right*, with an atrophic scleral ring, vessels of fair size and chorioidal disturbances. The papilla, *left*, is slightly pale but otherwise the papillary area with its vessels is normal. Small, round, whitish chorioidal exudates are sparsely scattered throughout the fundus. The perimeter (Fig. 12) shows in the left eye a well-marked hemiopia."

General Examination.—In my personal examination of the patient nothing further was found except that I was struck with the sausage-shaped fingers which conveyed a feeling of cutaneous resiliency or elasticity such as I have frequently noted in acromegaly. The proportions, however, were not particularly enlarged according to the patient's statement. An *x*-ray picture (Fig. 13) shows unquestioned enlargement of the sella turcica, which, as is shown in this case, is usually at the expense of the sphenoidal sinus; that is to say, the tendency of the tumor is to advance toward the nasal spaces.

The patient returned to his home in the northwest with the understanding that any further encroachment on the visual field of the left eye would be the signal for an operation.

To these six cases a number could be added in which acromegaly was present. That condition, however, is so self-evident that it is needless to detail instances in this connection. It is much more important that the surgeon, the ophthalmologist and the neurologist should *recognize that a pituitary tumor may be present without the association of acromegaly.* It is evident from the experience already obtained by the various operators and observers that the removal of the pituitary gland is indicated in both groups of cases. In the first place it furnishes the only possibility of the prevention of blindness, and in the second case seems to hold out some hope of a curative effect for the acromegaly, *and in all instances promises the prolongation of life.* It is not unlikely that the operation will be fraught with good results in proportion as it is undertaken early.

2 Adams Street.

FOOD INTOXICATIONS IN CHILDHOOD [*]

JOHN RUHRAH, M.D.

BALTIMORE

Much has been written and said about food fevers, autointoxications and similar conditions, but little has been done concerning this class of cases, which, it would seem, ought to be established with comparative definiteness both from the standpoint of diagnosis and treatment; and as a result the patients, both large and small, frequently suffer in the hands of those who do not know what to do for them, or are buffeted about from specialist to specialist for eyes, ears, stomach, or what not. Many a practitioner has been satisfied with telling his patient or his patient's parents that there is some obscure disturbance of metabolism and prescribing various more or less inexact methods of treatment, feeling that because he is unskilled in the chemistry of nutritional disorders he can neither diagnose nor treat them. While one realizes the necessity for the investigation and careful and exact study of the conditions under consideration, there is no reason why, in the absence of such knowledge, the patient should be left to suffer.

A large proportion of the conditions which the pediatrician is called on to treat are due directly or indirectly to errors in diet. Leaving out of consideration a large number of cases in which the trouble is an acute or chronic gastric or intestinal disturbance, there are still a large number in which the mere overfeeding in some direction causes symptoms. These untoward symptoms may be caused by too much food of all kinds and too little exercise, or by too much fat, protein or carbohydrate, or too much of any combination of these. The symptoms referred to are easily produced in otherwise normal children. There are still other children in whom the maximum limit of fat, protein or carbohydrate consumption is abnormally low, so that what appears to be a more or less correct diet may in any particular child be an unsuitable one, and result in symptoms often not even suggestive of errors in diet. It is well to remember that, on the other hand, disease of some organ may reflexly upset the digestion or metabolism and often unsuccessful attempts are made by regulating the diet to relieve symptoms caused by eyestrain or some other condition.

It is not possible to separate a symptom-complex out of each one of these conditions, although some light has been thrown in this direction, and it is to be hoped that with further study more may come. In other words, the symptoms produced by too much food of all kinds may resemble excessive fat-feeding, or too much protein may cause a condition similar to too much carbohydrate and *vice versa*, so that at times a certain amount of experimenting must be done to determine the proper course of treatment. The symptoms that may be produced are too varied to permit of lengthy description at this time. The most suggestive thing is a train of symptoms recurring periodically; it matters not what combination these may present. The next step in the diagnosis is by careful physical examination to exclude any disease of any organ and, this having been done with greater or less accuracy, a study of the child's habits and food must be undertaken. In over half the cases the error is usually evident; in others it requires careful investigation and often trial diets. These cases require individualizing more than any other class, but the results are often so brilliant as to reward one for the time and trouble taken.

As previously noted, while one can not make symptom-complexes, the following points have been found of use:

Taking of too much food of all kinds usually causes such attacks as are described by the laity as biliousness. The attacks recur with greater or less frequency, and are characterized by fever, a coated tongue, foul breath, headache, malaise, often drowsiness; there is often vomiting or diarrhea or both, and the liver may be somewhat enlarged and tender. A brisk purge and limitation of the diet usually are all that is needed.

Too much protein causes, as a rule, much the same symptoms. Sometimes some one symptom is especially prominent, as recurring headache, or recurring neuralgia, or attacks of vomiting, or in milder cases periods when the tongue is furred and breath foul without much other disturbance.

Too much fat is a frequent cause of trouble, and many children are often intentionally overfed with fat. These are cases of malnutrition in which large quantities of butter, cream, cod-liver oil, and other fats are given with the idea of fattening the child and restoring its normal condition. The result is that the nutrition is not improved, but is usually made worse. The child is unwell, has a pale, muddy skin and large dark circles under the eyes; one of the most striking features is a coated tongue and exceedingly fetid breath. There is gastric disturbance, and vomiting is frequent and there is often diarrhea with the passage of undigested fat in the stools.

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[*] Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The carbohydrate cases are the commonest of all, owing to the fact that a great many children are given large quantities of starches and sugars, not only at their meals, but between meals in the shape of sweets of various kinds, often of the cheaper varieties of candies. Many children have a very low capacity for utilizing sugar, and some for both sugar and starches. As in the other forms the periodicity of the attacks is the most striking feature. Perhaps the commonest form of the attack is recurrent vomiting, although this may be seen in cases in which protein metabolism is at fault. In some instances the attack consists merely of fever, or a sick headache, while in other cases there are attacks of asthma which sometimes follow indiscretions in diet. The most difficult cases to manage are those in which there is a combination, an inability to utilize normal quantities of protein and carbohydrate, as it is difficult to arrange the diet satisfactorily. The results in preventing the attacks are remarkable if the cooperation of the family can be secured. Having found out the food factor at fault, an effort should be made to determine about what quantity of that particular food can be utilized, then to keep the child on a diet well within the limits of its powers of assimilation. In addition to this it is exceedingly important to see that the bowels are regular, and a rather good plan is to use some fairly active purge at least once a week. Outdoor life and plenty of exercise is exceedingly important and many patients are greatly benefited by a sojourn in the country, not at a summer resort, but on a farm where a very active outdoor life may be led without too much restriction in the matter of observing social forms.

The following cases illustrate what may be done in the different classes of cases:

OVERFEEDING WITH PROTEINS

As an example of protein poisoning the instance of a small child 2½ years of age may be cited; an only child and one very badly brought up, who had an idea in its head that it would eat nothing except meat, or very little else. The child was having periodic attacks of an illness consisting chiefly of fever and prostration, the attacks being rather promptly relieved by the administration of calomel. In addition the child was having repeated seizures, almost epileptic in character, which would come on if the child became angry, or sometimes without any warning whatever. The child was put first on a milk diet and from that on an ordinary normal diet, making a complete recovery and has remained well ever since.

OVERFEEDING WITH FATS

An example of the cases of overfeeding with fats is shown in the case of a boy 6 years old who was very much undersized and under the normal weight, who had never been robust since an attack of ileocolitis in infancy. His mother, being anxious to make him a large, strong boy, under the advice of her physicians, gave him large quantities of cream, yolk of egg, cod-liver oil, and overfed him in other directions as well. The result was considerable gastric and intestinal disturbance, and a typical picture as described above from overfeeding with fat. The attacks of this character had been recurring for years. The diet of the boy was entirely readjusted, he was taken out of doors, and made a very good recovery. He gained in weight and strength, and the periodic attacks ceased altogether with the change in diet.

OVERFEEDING WITH CARBOHYDRATE

The carbohydrate cases present many different features. The following illustrate some of these points:

Recurrent Vomiting.—A boy aged 5 had been having attacks of vomiting, for several years, lasting four or five days at irregular intervals varying from a few days to a few weeks. These attacks began after an attack of some sort of a diarrhea when he was a small infant. Numerous physicians were consulted and the diagnosis of gastric disturbance was made in every instance, and the boy's diet arranged with that disease in view. He was finally taken to New York, where the diagnosis was confirmed, and finally on his way through Baltimore to his home in the south he was taken with a severe attack. The mother decided not to consult any physician, but, the boy's condition becoming alarming, she feared that the attack would prove fatal and sought aid. The diagnosis of cyclic vomiting was made; the boy was put on a diet without sugar and one containing comparatively little starch, and in the past three years he has improved in every way. He has had only one or two attacks of vomiting and these followed overindulgence in sweets.

Recurrent Fever with Diarrhea.—A small girl, aged 3, who was given excessive quantities of starchy foods and candies, was having attacks of fever with diarrhea coming on every other day. The diagnosis of malaria had been made, but there were no parasites in the blood and quinin had no effect. The case was seen in consultation and the suggestion made to cut out the sugars and limit the starchy foods. The child made a rapid recovery, and has had practically no recurrences of the trouble except on overindulgence in sugars.

Asthma.—The first case was one of an infant who had severe eczema and also frequent attacks of asthma. The child had a severe intestinal disorder, and was living on cereal gruels and fruit. The child refused to take milk or milk mixtures, and finally after considerable difficulty he was put back on a normal diet with the result that the eczema became very much better, but the asthma persisted. The amount of sugar and starch in the diet was limited, and under this diet, as long as the child was out of doors and getting plenty of exercise, he remained free from asthmatic attacks.

A second case is more striking. A girl of 13 was having recurrent attacks of asthma for which she had been treated in many different ways, having had her tonsils removed and her nose operated on without any result. The attacks were more or less periodic, and during them the urine contained acetone and diacetic acid. A trial was made of cutting out the sugars and limiting the starchy foods, with the result that the child has only had two attacks in the past year, both of these following overindulgence in sweets at a children's party.

Recurrent Fever.—A boy of 8 was having recurrent attacks of fever so that he was ill about one-third of the time. The urine contained no diacetic acid during these attacks, and beyond the symptoms caused by the fever nothing could be discovered. With the same dietary precautions and free purgation once a week the boy has been entirely free of these attacks with exception of one shortly after the treatment was instituted.

839 North Eutaw Street.

Saline Transfusion to Arrest Hemorrhage.—The coagulating power of the blood is said to increase materially after injection of 5 or 10 c.c. of a 3 or 5 per cent. solution of salt. Van den Velden has announced the hemostatic value of small amounts of a hypertonic saline fluid, and their harmlessness.

THE TREATMENT OF ANEMIA IN INFANCY WITH CITRATE OF IRON ADMINISTERED SUBCUTANEOUSLY *

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The percentage of hemoglobin in infancy gradually rises from 55 per cent. to 60 per cent. at the end of the first month to 70 per cent. at six months, where it remains during the rest of infancy. The number of red corpuscles in infancy varies between 5,500,000 and 6,000,000. Compared with the adult, therefore, in the infant the hemoglobin is relatively low. This comparative deficiency in hemoglobin is presumably due to the fact that the infant normally receives an insufficient supply of iron in its food and that the reserve of iron present in the liver at birth is not large enough to keep the percentage of hemoglobin at the adult standard This reserve of iron may, moreover, be insufficient and in any event is comparatively easily exhausted.

It is probable that the disease chlorosis never occurs in infancy. The chlorotic type of blood is very common, however, in the anemias of this age. The explanation of the occurrence of this type of blood is that, since the percentage of hemoglobin is normally relatively low in infancy and the number of red corpuscles larger at this age than later, a diminution in both gives a combination like that found in chlorosis in later life. Moreover, owing to the comparatively small reserve of iron at birth, almost all anemias in infancy have a relatively low percentage of hemoglobin. It is not uncommon to see the chlorotic type of blood develop in the course of any of the anemias of infancy and disappear later. In fact, this type of blood is almost always present to a greater or less degree at some time in the course of every anemia in infancy.

Iron is especially indicated, therefore, in the anemias of infancy. This is doubly true because milk, which makes up so large a part of the food at this age, contains a relatively small amount of iron. It is rather difficult to get infants to take sufficient amounts of iron by the mouth. Iron by the mouth is also very likely to disturb the digestion. In severe cases, therefore, it is often very advantageous to give iron in some other way. Iron may be given to infants subcutaneously without injury. A very serviceable form of iron for subcutaneous use is the aqueous solution of the citrate. This can be put up in pearls and sterilized, each pearl containing a single dose. When prepared in this way it remains sterile indefinitely. This solution is absolutely non-irritating and is never followed by induration or abscess if the injection is properly given. The injection is, however, sometimes followed by pain lasting from a few minutes to an hour. A glass syringe with asbestos packing, which can be sterilized, is necessary. The needle must be of platinum, as the solution corrodes the ordinary steel needle. The average dose during infancy is ¾ of a grain every other day.

I have used the citrate of iron in this way in a number of cases—some of the chlorotic type, some mild cases not of this type, and some cases of severe anemia with splenic tumor—with, on the whole, pretty satisfactory results, even in the severe cases. In the milder cases the improvement during treatment has been very rapid. In most cases the rise in the percentage of hemoglobin has been more rapid than that in the number of red corpuscles. In fact, in some cases, the red cells have diminished in number while the hemoglobin has continued to rise.

The following cases are examples:

Case 1.—*Patient.*—Lawrence H., 14 months old, was seen June 20. He was born at seven months, weighing but 4½ pounds. He had done very well on the whole, but during the last six weeks had refused everything but milk and had lost a great deal of color.

Examination.—He was well developed and nourished, weighing 16 pounds. There was marked pallor. The liver was palpable 2 cm. below the costal border. The spleen was not palpable. The cervical lymph nodes were palpable, the others were not. The general examination was otherwise negative.

Blood: Hemoglobin, 30 per cent.
  Red corpuscles, 2,500,000.
  White corpuscles, 16,700.
    Mononuclears, 76 per cent.
    Polynuclear neutrophiles, 22 per cent.
    Eosinophiles, 1 per cent.
    Mast cells, 1 per cent.

There was moderate variation in the size and shape of the red corpuscles with some achromia. Three normoblasts were seen in counting 200 white cells.

Course of Disease Under Treatment.—Citrate of iron, gr. ¾ subcutaneously, every other day, was begun. Improvement began after the first injection of iron. The child ate better and began to improve in color. The examination of the blood July 16 after twelve injections of iron was:

Hemoglobin, 50 per cent.
Red corpuscles, 4,200,000.

This case belongs in the class of secondary anemias due to too long continuance of milk without other food. There is a slight, but only a slight, tendency to the chlorotic type.

Case 2.—*Patient.*—Alma H., 7 months old, was seen April 11. She had had practically nothing but the breast. According to the story, anemia developed rapidly following the painting of the house about ten days before. There were no other symptoms, besides a somewhat apathetic condition, pallor and poor circulation.

Examination.—She was well developed and nourished. There was a very marked yellowish pallor. There was a slight venous hum in the neck and a slight systolic murmur at the base of the heart. The liver was palpable 3 cm. below the costal border; the spleen was not palpable. There was no enlargement of the peripheral lymph nodes. There was slight puffiness of the feet and a little about the eyes.

Blood: Hemoglobin, 20 per cent.
  Red corpuscles, 1,490,000.
  White corsupscles, 11,000.
    Mononuclear, 85 per cent.
    Polynuclear, 15 per cent.

There were many large forms of red cells, moderate polychromatophilia, slight poikilocytosis and an increased number of blood plates. Some of the mononuclear cells looked like those from the bone marrow and were throwing off blood plates. Three normoblasts and one eosinophile were seen on a slide.

Course of Disease Under Treatment.—The baby was started on tartrate of iron and potash, by mouth, 4 grains, three times daily. There was no improvement on this treatment. Citrate of iron, gr. ¾ subcutaneously, was begun May 11 and was given about every third day until July 27. The hemoglobin June 8 was 60 per cent.; July 4, 80 per cent.; July 29, 80 per cent., and September 1, 100 per cent. The red corpuscles were unfortunately not counted. Examination of stained specimens July 8 showed, however, that the red cells were normal in size, shape and staining qualities. One normoblast was seen on a slide. The blood plates were normal, the leucocytes estimated at about 10,000. Improvement in the color of the skin and general appearance was almost immediate after beginning the citrate of iron, and continued steadily.

Case 3.—(No. 2204.)—Male, 1 year old, entered the hospital Dec. 12, 1904.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

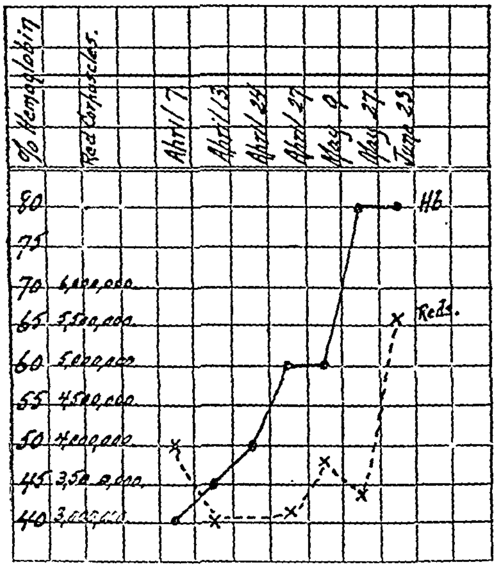
Examination.—He was emaciated and pale. The spleen was palpable 4 cm. and the liver 4 cm. below the costal border. The urine was negative. The blood showed:

Hemoglobin, 35 per cent.
Red corpuscles, 3,416,000.
White corpuscles, 24,800.

While in the hospital he had otitis media and an abscess of the neck. During this time he had had no iron. The abscess of the neck was healed February 1. The skin then showed a marked yellow pallor. The liver and spleen were each palpable 2 cm. below the costal border. The cervical and axillary lymph nodes were slightly increased in size.

February 6. Blood: Hemoglobin, 20 per cent.
  Red corpuscles, 2,083,000.
  White corpuscles, 23,000.
    Mononuclears, 55 per cent.
    Polynuclear neutrophiles, 43 per cent.
    Eosinophiles, 0.5 per cent.
    Myelocytes, 1 per cent.
    Basophiles, 0.5 per cent.

There was slight variation in the size and shape of the red corpuscles as well as slight polychromatophilia. One megaloblast was seen in counting 500 white cells.



Percentage of hemoglobin and number of red corpuscles in Case 5.

Course of Disease Under Treatment.—On February 8 citrate of iron, gr. ¾, subcutaneously, every other day was begun.

February 23. Blood: Hemoglobin 65 per cent.
  Red corpuscles, 2,408,000.
  White corpuscles, 13,000.

The general condition improved decidedly during this period. It is noticeable how much the hemoglobin improved, although the red corpuscles diminished in number.

The anemia in this case was distinctly of the chlorotic type.

Case 4.—(No. 2363.)—*Patient.*—Male, 20 months old, entered the hospital May 3, 1905. He had been very badly fed, but his digestion had been fair. Enlargement of the abdomen had been noticed for four months.

Examination.—He was small and poorly nourished. There was moderate pallor and signs of marked rickets. The liver was palpable 4 cm. below the costal border. The spleen was palpable, running out from under the ribs in the left nipple line, downward just outside the navel, then below the navel to the anterior superior spine and backward into the flank. The surface was not quite smooth; the edge was sharp. There was slight enlargement of the cervical and inguinal lymph nodes.

Course of Disease Under Treatment.—On May 4 citrate of iron, ¾ gr., subcutaneously, every other day, was begun.

May 5. Blood: Hemoglobin, 50 per cent.
  Red corpuscles, 4,000,000.
  White corpuscles, 15,000.
    Mononuclears, 38 per cent.
    Polynuclear neutrophiles, 59.5 per cent.
    Eosinophiles, 0.5 per cent.
    Myelocytes, 1.5 per cent.
    Mast cells, 0.5 per cent.

There was slight variation in the size and shape of the red corpuscles and considerable polychromatophilia. Two normoblasts and 8 megaloblasts were seen in counting 200 white cells.

May 20. Blood: Hemoglobin, 75 per cent.
  Red corpuscles, 4,800,000.

During this time he had had a slightly elevated temperature. The digestion was fair at first, later good. He was taken from the hospital by his parents May 21, not relieved.

In this case, also, the improvement in the percentage of the hemoglobin was much greater than in the number of red corpuscles.

Case 5.—(No. 2869.)—*Patient.*—Female, 1 year old, was admitted to the hospital April 4, 1907. No history was obtained.

Examination.—She was small and poorly nourished. There was moderate pallor and marked signs of rickets. There was a venous hum in the neck and a systolic murmur at the base of the heart. The liver was palpable 2 cm. below the costal border. The spleen was palpable, running out from below the ribs in the left anterior axillary line, downward to the navel, backward to the anterior superior spine, then along the crest of the ileum and disappearing in the back in the scapular line. The surface was smooth, the edge rounded, the notch distinct. The cervical and inguinal lymph nodes were the size of peas.

Course of Disease Under Treatment.—April 5 citrate of iron, gr. ¾, subcutaneously, every other day, was begun.

April 7. Blood: Hemoglobin, 40 per cent.
  Red corpuscles, 4,054,000.
  White corpuscles, 13,000.

The improvement in the blood is evident from the chart.

June 23. Blood: Hemoglobin, 80 per cent.
  Red corpuscles, 5,600,000.
  White corpuscles, 22,000.

During her stay in the hospital the morphology of the blood improved as materially as did the hemoglobin and number of red corpuscles. The general condition also improved decidedly. She was discharged relieved June 28. In this case the gain in the hemoglobin was steady, while the number of red corpuscles diminished for a time, but later improved rapidly.

My experience leads me to believe, therefore, that the subcutaneous use of iron in the way just detailed is often most advantageous. The results are more marked and are obtained more rapidly than when the iron is given by mouth and there is much less danger of disturbing the digestion. The subcutaneous use of iron is especially indicated in the severe cases of secondary anemia with disturbance of digestion and in those of the chlorotic type.

70 Bay State Road.

AMETHYST-TINTED LENSES

A PRELIMINARY COMMUNICATION*

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While man has always instinctively protected his eyes from the harmful influences of light, no reliable historical data are available to demonstrate the evolution of the use of colored glasses. Like many other customs originally based on empiricism, the subject is inextricably blended with the mists of antiquity. Ever since ophthalmology has become an integral part of medical science, ophthalmic surgeons have been confronted with the problem as to what color is best incorporated with glasses for the purpose of protecting the eyes against the various harmful influences attributed to light, quantitatively as well as qualitatively. Up to a comparatively recent time the injurious effects were supposed to be due to excessive luminosity, but we know that the ultraviolet rays are chiefly responsible. The problem is not only of importance from a scientific standpoint, but is assuming economic proportions of no small degree, when we consider the number of cases and the virulence of the symptoms that go hand in hand with the increasing employment of artificial sources of illumination.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

A century ago green glasses were worn. Later these were superseded by blue glasses of the same tint as the sky. As these were easy to manufacture in all dark gradations of color and comparatively inexpensive, they became popular with the laity, but otherwise acquired very little status. Glasses of neutral tint or smoke-color have afforded considerable relief, although the glasses were sometimes made so dark in color as to impede decidedly the power of vision.

In 1887 Fieuzal,[1] after numerous investigations, introduced a combination of gray, yellow and green, which still bear his name under the term "Fieuzal glass." This glass was so colored, as the result of the investigations of Van Genderen Stort,[2] who showed experimentally that the pigment, as well as the movement of the retinal elements, were reduced to a minimum under the influence of yellow light. The glass was not intended to arrest the ultraviolet rays, as their harmful effect upon the eye was not yet known at that time. While these glasses have been found acceptable and soothing, they afford no protection against artificial sources of illumination, which are rich in ultraviolet rays, as for instance, the electric arc lamp. Various other tints have been introduced from time to time, many of which, although withstanding spectroscopic and other tests, have failed on practical application.

In 1887 I was first led to use the amethyst-tinted glasses on noting that dentists, by constant use of their eyes in filling teeth with gold, became gold blind, failing to differentiate the walls of the tooth and the gold, and could continue their work only after a certain period of rest. It occurred to me that the yellow of the gold was producing over-stimulation of the retina and that a possible remedy would be the amethyst-tinted glass found in some of the old Philadelphia windows. Some of this glass was procured and I had a pair of spectacles made for a dentist patient which promptly relieved him and enabled him to pursue his work continuously for days without intermission. This good effect was confirmed in many other cases, and I next began to investigate the phenomenon of the coloration.

THE COLORATION OF GLASS FROM CONTINUED EXPOSURE TO LIGHT

After some window glasses have been exposed to intense sunlight for some time a violet coloration frequently develops, varying from a faint to a deeper color according to the time of exposure. The images of letters which have been removed from show windows often appear colorless against a background having a violet coloration. In 1905 Sir William Crookes presented to the Royal Society two panes of glass which had been colored a deep violet as a result of having been exposed to sunlight in South America at an altitude of almost 1,500 feet. On account of the increasing intensity of sunlight, the higher the altitude, it seems probable that the ultraviolet rays were responsible for the coloration. Indeed, it has been shown that glass can be colored violet after having been exposed for forty-eight hours to the ultraviolet rays emanating from the radiation of a mercury vapor lamp.

At one time it was supposed that the coloration was due to traces of manganese which glass manufacturers add to the glass to overcome the yellowish tint derived from the presence of iron, but this theory has been practically exploded. According to Ladenburg the coloration is the result of the formation of manganic acid from the ozone which the rays originate. But this theory is refuted by the fact that we also find the coloration inside of a Crookes tube in which the amount of oxygen is too small to be taken into consideration. It is now held that the coloration produced by ultraviolet rays, radium, *x*-rays, cathode rays, and the Becquerel rays from radioactive substances is due to very minute (ultramicroscopic) particles of metallic potassium or sodium in the glass.

DISTRIBUTION OF THE GLASS IN THE UNITED STATES

It may be interesting to note that I have found specimens of glass which had been changed from a white to an amethyst color by the sun in different parts of the country. Some I found in Philadelphia windows, and it was from these specimens that the evolution of the amethyst-tinted lenses took its inception. These window panes were brought from England seventy-five years ago, and at that time were white and clear, like any ordinary glass; but in due course of time their color has changed to a beautiful amethyst tint, and the singular fact has manifested itself that these changes only took place in the windows on the north side of streets running east and west, or else on the corner of the street where the glass was exposed to the sun. I have found other specimens of glass in Montana, Colorado, Florida, Maine, New Hampshire, New Jersey, and other states. While in Estes Park, Colorado, last summer, through the courtesy of Mr. Enos Mills, I learned that it required eighteen months to change an ordinary glass cup (white) to an amethyst tint No. 1. Mr. Mills purchased this glass cup and placed it near a spring on Long's Peak where it was constantly exposed to the sun's rays for the time mentioned, at an altitude of 12,000 feet.

THE EFFECT ON THE EYE OF ULTRAVIOLET RAYS FROM ARTIFICIAL ILLUMINATION

Artificial illumination, especially when considered from an economic standpoint, is undoubtedly the chief factor responsible for the various ocular affections attributed to the ultraviolet rays. In all large industrial establishments requiring the employment of artificial light, in all forms of passenger transportation in which electricity is used for illuminating purposes, in modern dwellings, and in the illumination of thoroughfares of all large cities as well, it has been the object to increase the luminosity of electric light appliances. The result has been that the apparent disregard of the effects on the eyes has caused an increasing number of cases, varying from simple conjunctivitis to profound ocular disturbances, as the result of electric ophthalmia. Before the introduction of electricity for illuminating purposes the cases were largely confined to accidental exposure to direct sunlight, as the viewing of solar eclipses with unprotected eyes, snow blindness, or from lightning, etc. We now find the cases increasing both in in number and virulence among clerks, typewriters, compositors, printers, seamstresses, and, in fact, in all vocations requiring close application under artificial light.

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[1] Bull. de la clinique nationale ophthal. de l'hospice des Quinze Vingts. 1887, v, No. 2; 1885, iii, No. 3.

[2] Arch. f. Ophth. (Graefe's), 1887, xxxiii, 3.

While the ultraviolet rays generally cause intense conjunctival irritation, the crystalline lens, as a rule, prevents them from affecting the retina, the lens itself becoming intensely fluorescent, as originally shown by Widmark. That this fluorescence is to be attributed exclusively to the ultraviolet rays is proved by the fact that if a glass which will absorb the rays, such as the euphos glass discovered by Schanz and Stockhausen,[3] is placed between the eye and the source of radiation, the fluorescence disappears, only to reappear again when the glass is removed, and at the same time there occurs a reflex closure of the lids in the animal. It is now recognized that the spectrum is lengthened toward the ultraviolet side after cataract extraction, and that the erythropsia occurring in these cases is due to the influence of the ultraviolet rays on the retina. It may also occur, however, in normal eyes, as Fuchs and others have observed, when a dark hut is suddenly entered after prolonged trips among glaciers. Experiments made on the aphakic eyes of rabbits by Birch-Hirschfeld[4] have shown that, after the eyes have been exposed from half to three-quarters of an hour to the ultraviolet rays from an electric light, retinal changes appeared, characterized by a solution of the chromatin substance of the ganglion cells, the formation of vacuoles in the protoplasm, and loss of chromatin in the nuclei of the inner nuclear layer, and a bleaching and change in structure in the nuclei of the outer nuclear layer. The absorption of ultraviolet rays by the lens has furthermore been substantiated by Schulek, Hertel and others.

PROTECTION OF THE EYES FROM THE ULTRAVIOLET RAYS

The large number of theoretical data which have been obtained in the search for the proper coloration of glass as a means of protecting the eye against ultraviolet rays, particularly those of from 300 to 400 mm. wave length, largely depend on animal experimentation, the human eye being obviously unfit for such investigations. And yet, after all the painstaking experimentation on the part of such singularly astute observers as F. Schanz and K. Stockhausen,[3] the astonishing assertion is made by them that, although their euphos glass succeeds in absorbing the ultraviolet rays, it is more practical to use it for the manufacture of lamp chimneys, electric light bulbs, etc., than to employ it for the manufacture of spectacle lenses. Furthermore, while the discovery of this glass fulfills the purpose of protecting the eyes from ultraviolet rays, it is admitted that it is not a matter in indifference if the eye is entirely removed from the influence of the rays.

While theoretically, and scientifically, much has been done toward solving the matter, the practical side of the question is, after all, the one toward which we must look for an answer, once more illustrating, what has so often been found in the development of medical science, that an empirical fact is often the forerunner of a scientific discovery. Vaccination was discovered long before the theories of immunity were established on a scientific basis, nor could it wait for a theoretical corroboration; quinin was discovered as a specific for malaria long before the microscope became trained on its etiologic factor; likewise many therapeutic measures were discovered and successfully employed long before their scientific status had been established.

AMETHYST-TINTED LENSES

As stated above, the amethyst-tinted lenses had their inception in my observations of the sun-colored glass. The only mention in literature that I have been able to find relating even to the experimental use of window glass is that of Widmark, who found that the interposition of a piece of window glass 2.5 mm. in thickness between the source of light and the eye lessened the severity of the symptoms. It does not state, however, whether this piece of window glass had previously been exposed to action of sunlight. F. Schanz and K. Stockhausen also tried the experiment with a piece of plate glass 18 mm. in thickness, using an arc lamp very profuse in its ultraviolet radiations, but in their experiments the symptoms were not materially influenced. It is possible that the plate glass in their case had never been exposed to sunlight, while the window glass of Widmark probably had.

As the amethyst window glass of Philadelphia is becoming continually scarcer, efforts are now being made to procure the coloration by artificial means. I am not yet prepared to state whether the artificial glass will have the same therapeutic effect as that naturally colored, but this will be a subject of future observation.

I have graded the color into various shades, calling them 1, 2 and 3, respectively, and am using them according to the manifest clinical conditions.

The glass can be used in the manufacture of lenses of all foci and curvatures.

THERAPEUTIC INDICATIONS AND RESULTS

The results which I have obtained from amethyst-tinted lenses date back to their employment in the case of dentists afflicted with goldblindness and cover an experience of over twenty years. In cases of asthenopia the results have been most gratifying. In the case of printers, typewriters, students, seamstresses, and all those who are required to apply the eyes closely under artificial illumination, prompt and permanent relief was afforded, especially when the amethyst tint was incorporated with correcting lenses. Especially in asthenopia of anemic women the results were most satisfactory; like results were obtained in other cases of ocular fatigue. No. 1 tint is prescribed in all mild forms of asthenopia; No. 2 and 3 in severer forms. As the severe cases become relieved I change to No. 1 color, and these are then worn indefinitely. After wearing even the pale tint the patient does not care to go back to the colorless glass. The glass has been prescribed with great relief to those whose eyes are exposed in *x*-ray laboratories. In one case a patient of mine who had been almost blind for red, as a result of continually working on that color in a factory, was promptly and permanently relieved by amethyst tint No. 3. On my recommendation many of my friends have prescribed this glass and have met with the same beneficial results.

I have requested various opticians of Philadelphia to furnish lists of the number of prescriptions for amethyst lenses, filled during the last five years, and as nearly as we could ascertain there were about three thousand. A majority of these prescriptions were given by Philadelphia ophthalmic surgeons and in many instances they came from elsewhere. The records also show that the demand for these glasses is increasing monthly.

Whether the production of the amethyst tint by sunlight or its reproduction by artificial means imparts a quality to the glass which acts as an immunizing agent against the harmful effects of excessive ultraviolet rays, or whether the beneficial results obtained depend on purely spectroscopic principles, future observations will determine.

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[3] Arch. f. Ophth. (Graefe's), lxix, 49.

[4] Trans. German Ophth. Society, Heidelberg, Sept. 14, 1903.

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ABSTRACT OF DISCUSSION

Dr. Nelson M. Black, Milwaukee: Dr. Fox states that "artificial illumination, especially when considered from an economic standpoint, is undoubtedly the chief factor responsible for the various ocular affections attributed to the ultraviolet rays." From this statement it is assumed that Dr. Fox considers the cause of "the various ocular affections" to be the ultraviolet rays emanating from artificial illumination.

It is a well-known fact that serious and lasting eye lesions have been induced by exposure of the eyes, even when protected, to light rich in ultraviolet rays. This is, however, usually the result of experimenting with the various arc lamps or the result of drilling armour plate with an electric arc.

Dr. Charles P. Steinmetz, probably the greatest authority in the world on electricity, in his lecture on the "Physiologic Effects of Radiation," speaking of ultraviolet rays, says:

"While artificial illuminants, and especially metal arcs, give an appreciable amount of ultraviolet light, these ultraviolet rays extend only to about one quarter octave beyond the visible violet, if, as always the case, the illuminant is enclosed by glass; the harmful effect of these long ultraviolet rays is negligible; the radiation of the sun also contains ultraviolet rays, and a large percentage, compared with the total radiation, than any glass-enclosed artificial illuminant, and as the light of the sun, that is, daylight, is recognized as perfectly harmless, as far as this specific destructive action is concerned, the same applies to the artificial illuminants, as they contain less ultraviolet rays than the light of the sun."

The above statement would make it seem that the agitation at present going on about the injurious effects of ultraviolet rays from commercial illumination is without rhyme or reason, and while the ocular discomfort which Dr. Fox has succeeded in relieving with amethyst lenses is undoubtedly due to close use of the eyes under artificial illumination, we can find the primary causative factor within the visible spectrum. This theory is founded on four main considerations: (1) The fact that sufficient ultraviolet light does not emanate from the commercially employed sources of artificial light to produce the ocular conditions mentioned in Dr. Fox's paper; (2) the effect of monochromatic light on the visual purple of the eye; (3) the fact that the amethyst-tinted lenses relieve the ocular discomfort of individuals who have vocations requiring close use of the eyes under artificial illumination, such as clerks, typewriters, printers and seamstresses; (4) the spectroscopic analysis of the amethyst-tinted glass used by Dr. Fox.

Dr. William Churchill, of the Corning Glass Company, to whom I submitted a sample of this amethyst glass for spectroscopic analysis, writes: "This amethyst glass cuts out a certain proportion of the greeenish-yellow light of the spectrum; I should say, roughly, 10 or 15 per cent."

To summarize: The visual purple or protecting tissue of the retinal elements is rapidly bleached or used up by the greenish-yellow rays emanating from artificial illumination which is reflected into the eyes from material having a high degree of reflection. This visual purple can be reproduced only by exclusion of light. The eye is exposed for long intervals day after day to this reflected light; the pigment is rapidly used up and does not have a chance for reproduction; as a consequence the retinal elements are exposed to constant source of irritation which finally results in the ocular conditions mentioned by Dr. Fox.

Dr. Mortimer Frank, Chicago: Dr. Fox and Dr. Black have evidently overlooked the valuable contribution on the subject of the action of sunlight on glass by Thomas Gaffield, before the Society of Arts of the Massachusetts Institute of Technology, at a meeting held in January, 1881. Gaffield's experiments were conducted over a period of ten years, and his conclusions can still be considered.

In Gaffield's experiments every specimen of colored glass exposed for ten years showed some change of color or tint, except some white flint glass, such as is used for fine glassware and optical glass, which showed only a very slight change of tint, leading him to think that the oxid of lead entering largely into the composition might act as a protecting shield against change by sunlight exposure. It is a curious fact, noticed by Pelouze and Percy, and confirmed by Gaffield's experiments, that with a few exceptions among the colored specimens all the glasses changed in tint or color by sunlight exposure can be restored to their original color by the heat of a glass-stainer kiln, and can again be colored after a second exposure to sunlight, and that this coloration by sunlight and decoloration by heat can be carried on indefinitely.

Gaffield, in his experiments, took notice of the part which some of the metallic oxids play in the coloration of glass, and which manganese plays in its coloration and decoloration. He suggested that the explanation of this wonderful alchemy of sunlight, whatever it may be, and however accomplished, is probably attended by two circumstances; first, by an interchange or a redistribution of the oxygen among the constituent materials of the glass; and, second, by the development in consequence of this redistribution of the special coloring power of the metallic oxid, which has the greatest affinity for oxygen, or stands in the greatest proportion to the other constituents.

In the early days the color of glass was slightly greenish owing to iron being present; to remove this color manganese was added. Under the action of sunlight the manganese became liberated and gave the violet color. We know that glass is more or less opaque to ultraviolet rays, and with that knowlelge we ought to be very careful in ascribing therapeutic results from amethyst glass to any unusual feature of the lens and overlook the psychologic element which might be obtained from its use.

Dr. Walter L. Pyle, Philadelphia: I have prescribed amethyst-tinted lenses for probably ten years, but I think with less and less frequency. I have, however, undoubtedly had numerous cases in which the results have been most remarkable. Of course, in considering these results we have to discount the psychologic element and also the careful correction of refraction at the time of last prescription. My best results have been among patients who must either read, write or do some fine manual work under an intense artificial white light, such as the Welsbach or the Nernst lamp. Contrary to my first expectations, I have not had the best results in cases of general photophobia in bright daylight. In this connection I wish to lay stress on one point particularly—it is necessary to use the *naturally* tinted lens. The artificial substitutes that I have seen have a preponderance of red tint which seems to destroy their value. There must be an abundance of amethyst-tinted glass all over the United States. In Philadelphia whenever there is an old building dismantled the opticians are on the lookout for this old window glass. If the members of the section prescribe lenses other than those of the naturally tinted glass, particularly the artificial product imported from England, I am sure that they will be disappointed in their results. In agreement with Dr. Fox, I believe that in obstinate cases of photophobia, and in special cases, such as dentist's work on gold, the natural amethyst-tinted lenses are well worth a trial.

Dr. C. H. Williams, Boston: I remember being present at the meeting to which Dr. Frank refers at which Gaffield's experiments were shown, and it was a beutiful demonstration of the effect of sunlight on glass. Where the glass was protected from the sunlight it did not develop the amethyst color. I should like to ask whether any comparison has been found between the amethyst glass and the yellow amber glass and the Fiengal glass, which cut off more particularly the blue and ultraviolet rays. My experience is that they give special relief in these cases of sensitiveness of the eyes to light. There is another glass which has not been mentioned which I find in many cases still better. It is made at the Jena works in Germany and is a heavy lead glass. Ordinary glass has an index of refraction of 1.5. This new Jena glass has an index of 1.9. It is very heavy and cuts off much of the blue and ultraviolet rays. It has a little yellow tinge but very much less than the amber glass. The disadvantage is that it is very heavy and, being soft, scratches easily. In some cases of extremely high myopia I have had the best results and the patients have worn spectacles made from this glass with greater comfort than any other kind.

Dr. Barton Pitts, St. Joseph, M.: I have never found any beneficial effect from colored glasses no matter what color or tint used, otherwise than in special extraneous conditions; that is, in exposure to intense furnace heat, and to reflected sunlight on the water, and in pathologic conditions, such as supersensitiveness of the retina and conjunctiva from irritation. Colored glasses in such conditions as those referred to, afford some satisfaction. The health ray lens, manufactured in my section of the country, is of no especial virtue so far as I have been able to observe, nor is any tinted lens otherwise than from the psychologic effect. I believe the clearer and more perfect the lens for refraction of the ordinary rays of light by which we are surrounded, the better it is adapted for all practical purposes.

Dr. George Friebis, Philadelphia: Suetonius says that Nero, who was quite myopic, used an amethyst lens whenever he wished to see or identify an object. Suetonius, the most competent authority of that period, states that the amethyst lens was used in order to see clearly in cases of photophobia.

Dr. Walter L. Pyle, Philadelphia: My remembrance of Suetonius is that Nero used an emerald, likely of concave curvature, to improve the vision of his myopic eyes. This, I think, is also Prof. Hirschberg's belief.

Dr. George Friebis: I have just had a discussion with Dr. Bullitt, and he is also under the impression that it was an emerald instead of an amethyst which Nero used. I believed that it was the amethyst lens, although both gentlemen say I am probably in error and I am indebted to them for the correction. I simply wished to call attention to the fact that colored lenses are historic and were used as long ago as Nero's reign.

Dr. Edward Stieren, Pittsburg: The earliest account we have of the use of a tinted glass dates from Nero's time, who, being an albino, wore an emerald when viewing the gladiatorial contests. The present-day need is not for relief from daylight, as Dr. Fox has so clearly stated, but to relieve tired, aching eyes from the baneful effects of the newer electric and gas lights with their added richness in ultraviolet rays. I personally derive great relief from an amber-tinted lens; as a grateful patient remarked to me several years ago, "I wear my clear glasses outside and my amber glasses in the office. As soon as I put the latter on my eyes feel as refreshed as though I had bathed them in cold water." It is just such a relief that my eyes experience when I change to my tinted glasses after a busy day with the ophthalmoscope. The reported discovery of two Germans, Shanz and Stockhausen, of a glass impervious to the invisible radiations from light sources but perfectly transparent to luminous rays is highly interesting and opportune. With a flaming arc or Nernst lamp thus encased the acme of illumination can be obtained minus the present harmful effect.

Dr. L. Webster Fox, Philadelphia (closing): I wish to thank Dr. Black for the very interesting contribution which he has made to the scientific side of my paper, and I am also indebted to Dr. Frank for his information concerning the investigations on amethyst glass made by Garfield, of Boston, in 1881. In answer to Dr. Williams, I would say that my experience with amber glass is limited. In those patients by whom it was used it did not relieve the "hyperesthenia of the retina" as quickly as the amethyst glass. Neither did the amber glass suit the pink cheeks of the ladies of Philadelphia, who are famous for their beauty, which is certainly enhanced by purple hats, bonnets and dresses, and last but not least by amethyst-tinted glasses. This makes a harmony of color which is not only gratifying to the patient but also to her friends.

The Absorbing Capacity of the Animal Skin for Salicylic Acid and Sodium Salicylate.—Georg Schumacher (Inaugural-Dissertation, Giessen, 1908), says that the intact skin of horses, cattle, dogs and rabbits is permeable for salicylic acid either in the form of salts or in alcoholic solution. Sodium salicylate either in the form of salves or in alcoholic solution is likewise absorbed by the intact skin of these animals. The absorbed salicylic acid appeared in the urine, on an average, in two hours after application as a salve with neutral lard or lanolin as base, or as an alcoholic solution. The excretion of salicylic acid continued for approximately two days when it was applied as a salve.

REFLEX AURAL NEUROSES CAUSED BY EYESTRAIN

WITH REPORT OF CASES *

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Although nearly all the ills that flesh is heir to, not excepting dysmenorrhea, dysuria, sterility and habitual constipation, have been ascribed to eyestrain, but scant consideration has been given to the influence which, not very rarely, it exerts on the auditory apparatus. So scant, indeed, is this consideration that, though I am sure the matter has been treated of, I have been unable to find mention of it in any treatise on diseases of the eye or the ear at my command, or a single reference to it in the titles of papers contained in the Index-Catalogue of the Surgeon-General's Library.

I have heretofore, in enumerating the less common consequences of eyestrain, mentioned tinnitus aurium as one of them,[1] and in the discussion of a paper on "Objective and Subjective Tinnitus," presented to the American Otological Society, in 1896, by Dr. Alexander B. Randall, I reported a case of this character observed several years previously.[2] Since this first observation the subject has been of interest to me, and I am convinced from the number of cases of similar character which I have encountered in the interim that it is one deserving of greater consideration than it has hitherto received.

While tinnitus is the aural reflex that I have most frequently observed, as a result of eyestrain, it is not the only one. Others that may be mentioned are a "muffled" or "stuffed" sensation in the ear, pain, not severe, and as often felt around and in front of as in the ear, and impairment of hearing, which the tuning fork seemed to indicate was due to disturbance of the perceptive rather than of the conducting apparatus. Whether, as well, the vertigo recognized as a by no means unusual symptom of eyestrain, and which was present in several of my cases, deserves to be regarded as an aural reflex I am not prepared to say, though it seems not at all improbable that the derangement that gives rise to it is in the semicircular canals.

Of tinnitus due to eyestrain I have observed three distinct varieties—the more usual or vascular type, the relatively low-pitched, whirring or fluttering sound caused by irregular contractions of the tensor tympani, and the high-pitched, almost musical, intermittent tinkling produced by like contractions of the stapedius muscle.

The evidence in favor of the ocular origin of the aural sensations enumerated is, first, their disappearance after relief of the eyestrain; second, that the ear affected—for the sensations were commonly unilateral—was usually the one on the side of the more troublesome eye, and, third, that they often became more pronounced when the eyestrain was most annoying, or were brought on, or at least intensified, by use of the eyes. The ocular fault often present was astigmatism, sometimes of high degree and associated with other marked refractive errors, though in some instances it was chiefly heterophoric.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Prevalent Diseases of the Eye, p. 390.

[2] Tr. Am. Otol. Soc., xi., 365.

Politzer remarks, in his exhaustive and interesting discussion on "Subjective Sensations of Hearing," that such sensations are "occasionally produced reflexly from the trigeminus,"[3] and this doubtless is the explanation of those which are caused by eyestrain.

The nerve supply of the tensor tympani is derived from the motor branch of the fifth nerve; the stapedius receives a twig from the seventh, and it is as easy to comprehend how eyestrain may produce irregular contractions in these two muscles as in the orbicularis, which, as is well known, it often does.

The more subjective and more usual varieties of tinnitus, when caused by eyestrain, as well as the impairment of hearing which sometimes coexists, are to be explained, in all probability, by a vasomotor disturbance of the intralabyrinthine blood vessels. The "muffled" or "stuffed" sensation in the ear, not infrequently complained of, may be similarly explained, or, like the otalgia, may be due simply to a reflex irritation of aural branches of the trigeminus, of which familiar examples, such as otalgia dentalis, might be cited.

I have the notes accessible of about twenty cases of subjective aural sensations which, it seemed probable, were produced, in part at least, by eyestrain. I shall, however, describe briefly but four of the most striking of these, and first I may speak of a personal experience.

CASE 1.—Having inherited what may be termed a very intractable pair of myopic and astigmatic eyes, I have had occasion to adjust and readjust my glasses oftener than I care to confess. About sixteen years ago I developed a very subjective, one-sided tinnitus, which persisted for some weeks despite my efforts to rid myself of it. Finally it occurred to me that my eyes, which were giving me trouble at the time, might be responsible for it. I, therefore, readjusted my glasses, and the tinnitus promptly disappeared. Some months afterward it returned, and disappeared as quickly as before with another change of glasses.

Several years elapsed without further aural sensations, when a tinnitus of a different character made its appearance—an intermittent, whirring or fluttering sound, less subjective than the tinnitus previously experienced—which I made no doubt was caused by irregular contractions of the tensor tympani. This, too, promptly ceased when my glasses were once more modified.

More recently, with a return of asthenopic symptoms, I became aware of an intermittent clicking or tinkling sound, of high pitch, in the right ear, the previous sounds, if I remember rightly, having been heard always in the left ear. Sometimes there would be a single click, sometimes two or three in rapid succession, and again a longer succession of clicks—a not unpleasant, semimusical metallic tinkling. The sensation was much less annoying and entirely unlike that previously experienced from irregular contractions of the tensor tympani, and was, I feel sure, caused by like contractions of the stapedius muscle. As had happened before, it disappeared with a further change of glasses and relief of the asthenopia. It may be of interest to add that I have in times past been annoyed by spasmodic twitching of the palpebral fibers of the orbicularis palpebrarum.

CASE 2.—Mr. N., aged 19, a student in Johns Hopkins Medical School, complained of asthenopia, chiefly in right eye, a "stuffed" feeling in right ear, a numb sensation around and in front of this ear, and occasional giddiness. Choreic contractions of the right orbicularis palpebrarum, of the levator of the upper lip on the same side, and of some one of the small muscles having to do with the nose, which caused perceptible movements of his eyeglasses, were subsequently observed.

Examination.—He was found to have a low grade of hypermetropia, slightly greater in the right eye, and a very high degree of left hyperphoria.

Treatment.—Notwithstanding the great amount of hyperphoria shown by the tests—from 10 to 16 degrees in distant, and from 20 to 22 degrees in near vision—he was not inclined to accept a very considerable prismatic correction. Spheroprismatic lenses correcting his manifest hypermetropia and but 4° of the hyperphoria were, therefore, prescribed. These for a time afforded a measure of relief. Subsequently, I performed a "guarded" tenotomy on the left superior rectus, reducing the hyperphoria by about 8°, and this, supplemented by the glasses, which he continued to wear, was followed by more decided relief as to both the asthenopia and the reflex symptoms.

Result.—The relief, however, was not complete, and has not proved lasting, and as the residual hyperphoria is still marked, I am waiting for an opportunity of a short rest from work, which he will soon have, to tenotomize the right inferior rectus. I may add that the patient notices a definite improvement in the aural manifestations from even a brief rest of the eyes from near work, and, further, that his hearing is not impaired.

CASE 3.—Mrs. R., aged 37, consulted me in November, 1908, complaining of asthenopia, headache, giddiness, a "stuffed" feeling in the ears, and of bilateral earache, which had manifested itself only a short time previously. She was found to have compound hypermetropic astigmatism, and glasses, for constant use, were prescribed as follows:

R. eye + .62s ○ + .25c 100°
L. eye + .50s ○ + .37c 100°

She was requested to report the effect produced, and, on January 5, wrote me: "I have found a great deal of relief from headache and dizziness by the constant wearing of the glasses. I have suffered no inconvenience from earache, and have at no time since seeing you noticed any muffled feeling in my head."

CASE 4.—Mr. S., aged 45, of distinctly neurasthenic temperament, complained of tinnitus, occasional giddiness, a "stuffed" feeling in the ears, nervousness, and "severe pain in the head." Attempts to use the eyes in reading, he said, increased the tinnitus and nervousness. The pain was more severe on the right side of the head, the noise louder in the right ear, and in addition to the tinnitus, which was constant, he occasionally experienced a "clicking" sensation, usually in this same ear.

Examination.—He was wearing, in far and near, + 1.s lenses, prescribed by a well known New York oculist. His hearing was practically normal for watch and voice, and the tuning fork showed nothing worthy of note. With his glasses on, the muscle balance was normal, except that he had only 1/2° of exophoria at the reading distance. Compound hypermetropic astigmatism, against the rule, was easily made out; but, as the ciliary muscles were very irritable, a cycloplegic was employed.

Treatment.—As a result of several tests, glasses were prescribed for distance as follows:

R. eye + 1.75s ○ — .50c 95°
L. eye + 1.75s ○ — .37c 75°

and for reading the sphericals were increased in strength .75D. Three months later the correction for distance was changed to:

R. eye + 2.37s ○ — 1.12c 97½°
L. eye + 2.12s ○ — .50c 70°

and + .62s was added for near vision.

Result.—As a result of this change, his asthenopia and head pains were relieved, and after a few weeks, ammonium chlorid having been administered in the meantime, he reported the tinnitus as appreciably lessened, and as having become intermittent.

Subsequent History.—Nearly four years elapsed without the patient having further occasion to see me, when a return of asthenopia from near use of the eyes, occasional headaches, failing vision for small print, and "some tinnitus," which he was not disposed to admit he had ever been entirely rid of, led him to seek further advice. An increase of .12 D in the astigmatic correction of the right eye was found to be indicated and, of course, a considerable strengthening of his presbyopic lenses. This was two years ago and he has not consulted me since. In reply to a recent letter addressed to him, he writes that the "noises and stuffy feelings" are better, but that he is not entirely free from them. He adds that he is now under the care of a well known psychiatrist, whose treatment has given him a great deal of relief.

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[3] Diseases of the Ear. Lea Bros. & Co., p. 772.

ADDENDUM

When the writing of this paper, except the notes of cases reported, had been completed, Dr. H. O. Reik, whom I had asked to assist me in searching the literature for anything that might have been published having reference to the production of subjective aural sensations by eyestrain, brought to my attention the paper of Dr. F. Park Lewis,[3] of Buffalo, New York, on "The Ophthalmic Origin of Otic Disturbances, with the Cerebellar Control of the Eyes." I was much interested to find my observations confirmed by those of Dr. Lewis and to note the close similarity between some of his cases and some of my own. And especially was I interested to find mention in his enumeration of aural symptoms of the sensation of "stuffiness" in the ears which I have so frequently encountered, and which, I think it will be admitted, is not a symptom often complained of in purely aural affections.

Dr. Lewis' search of the literature bearing on "The Ophthalmic Origin of Otic Disturbances," as he phrases it, evidently has been more thorough and more successful than my own, for he mentions a case of this nature described by Dr. George T. Stevens in a paper read before the International Medical Congress in 1881; a paper by Dr. Arthur A. Boyer on "The Relative Importance of Labyrinthine and Ocular Defects in the Etiology of Vertigo," presented to the Neurological Section of the New York Academy of Medicine in 1895, in which the author cites ten cases of "vertigo and lowered hearing" associated with refractive and muscular faults, and which were relieved by their correction, and, finally, a more recent article by Dr. Marcel Rollet,[4] of Blois, "De l'influence de l'oeil sur l'oreille *à* l'état normal et pathologique."

ABSTRACT OF DISCUSSION

Dr. Park Lewis, Buffalo: The subject of Dr. Theobald's paper is one of peculiar interest and one which I must say I had a little reluctance to present in the form of a paper because of its bizarre character. It seemed so unlikely that eyestrain could produce definite irritations in the ear that I hesitated until I was quite sure from repeated observations that ear disturbances had an eye origin before presenting the subject at a meeting of the American Ophthalmological and Otolaryngological Society at Cleveland. An interesting fact is that four or five men have independently had their attention called to the fact that certain eye conditions may be productive of disturbances of one character or another in the ear. Recently a case came under my notice of a woman, highly neurotic, who had a small corneal ulcer accompanied with a great deal of blepharospasm. With each contraction of the lid there was a sharp pain in the corresponding ear. That had continued two days. Cauterization and healing of the ulcer caused the pain to cease in the ear. Since the presentation of these papers I have been much interested at the voluntary suggestions on the part of the patients, of relationships between the ears and the eyes. Recently a patient told me that whenever she had drops put in the eye of a cycloplegic character she had a moisture in the ears. Another patient volunteered the information that when he put on glasses at the theater there was a sensation of confusion and deafness and he was obliged to take the glasses off. This may or may not mean anything, but I am inclined to believe that we will be surprised to find how many instances occur in which like conditions are found to be present. The value of this observation lies in its application. It is not merely a curious and interesting thing to note from time to time that there is a relationship between the eyes and ears, but if we get a sufficient number of cases a study of them may make it possible to determine some of the unknown pathways through which impressions are carried from one sense organ to another, and it is possible that we may find that some intractable ear conditions may have been influenced, if not produced, by eyestrain as an exciting cause.

Dr. E. E. Holt, Portland, Me.: My experience in the treatment of tinnitus aurium and allied affections coincides with Dr. Theobald's to a large extent. These affections of the ear are among the most common and troublesome the otologist is called on to treat. In the early practice of otology, treatment for the relief of tinnitus was almost wholly directed to the external and the middle ear. In many patients who had been the rounds of different practitioners and all had been done for them that seemed possible the tinnitus would still persist. Considering the marked relief given to disturbances of the nervous system by the correction of ametropia, I began testing the eyes of such patients about twenty years ago. This test was often made against the will of the patients, for they would insist that the eyes were all right. When, however, a sufficient error was found and lenses were worn for its correction relief would be given to the tinnitus aurium. We know that we give relief to affections of the eye and ear from the treatment of the nose and it seems to me that in the treatment of affections of these organs we should examine all parts and organs to which the fifth nerve is distributed. I did not know that any one had made reports relative to the correction of ametropia for the relief of tinnitus aurium. I continue the practice of examining the eyes of all patients who come to me complaining of tinnitus aurium and allied affections and prescribe glasses with excellent results. In fact, I give as much relief from having my patients wear glasses as from any other single remedy prescribed.

Dr. Lucien Howe, Buffalo: Although I do not think the cases are so very rare of tinnitus following efforts at accommodation, probably the explanation which the Doctor gives of the phenomenon is the right one, and as we contract one set of muscles by association we also contract another set. Just a word of criticism in the use of the term "eyestrain." I think we should do away with that term or else consider it simply the result of some pathologic condition. Thus we have astigmatism in most cases as the underlying cause. It is this which disturbs the normal balance, and produces what, for lack of a better definition, we may call imbalance. It would seem better if we could thus unify our nomenclature and get rid of some confusion.

Dr. Samuel D. Risley, Philadelphia: To me, the interesting fact in Dr. Theobald's paper, and the reported cases, is the demonstration it affords of the intimate relation existing between the special senses. In the normal individual with model special sense organs there is a concordance of function which is of great importance to his comfort. In health the sense organs are in tune, to borrow for illustration an expression from another branch of science, and they act in harmony, flowing or overflowing mutually. For example, a famous musical composer called a certain opera his "yellow dog," and to me certain high notes on the piano or violin have always given the sense of pale violet. It is quite conceivable that derangement of function in any one of the special sense organs may lead to discord in the symphony of the senses, one of the illustrations of which Dr. Theobald has presented to us, naming it "reflex aural neuroses caused by eyestrain." I have seen a high pitched, whistling tinnitus, in a healthy ear, disappear at once after the correction of hypermetropic astigmatism. It is not always easy to differentiate between the senses of taste and smell. One can experimentally upset the concord between the special sense organs by placing a prism base down before an eye and then make the attempt to walk on a crowded street or to ascend the stairs.

Dr. S. Theobald, Baltimore: I have nothing to add except a protest against the criticism of the term eyestrain. It exactly expresses what I want to convey, and it would be difficult to suggest a better term to describe it.

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[3] Ann. Ophth., January, 1909.

[4] Rev. hebd. December, 1908.

ACCOMMODATION AND DONDERS' CURVE AND THE NEED OF REVISING OUR IDEAS CONCERNING THEM *

[Editor's Note: The article with the above title, by Dr. Alexander Duane, New York, appeared in The Journal, June 19, before the discussion thereon had been submitted to the speakers for correction. The discussion was therefore omitted at that time and is now presented below.]

ABSTRACT OF DISCUSSION

Dr. Edward Jackson, Denver: An experimental study like this valuable one is of practical interest largely in proportion to the near resemblance of the results obtained by laboratory tests, with those secured by methods in ordinary clinical use for the measurement of accommodation. That the resemblance is here a close one is brought out by comparison with a paper I published three years ago giving the results of testing the accommodation in 3,643 persons ranging from 5 to 70 years of age. In all of these cases the static refraction had been carefully measured for the prescription of correcting lenses, and the near point was determined, not with a special test object as in the investigation of Dr. Duane, but with fine print visible to the normal eye at 10 or 15 inches. The sources of error in such examinations referred to in the paper now under discussion were guarded against by instruction of the patient and repetition of the tests.

The results which I reported have here been reduced to a chart, a reproduction of one used to illustrate my paper, modified for comparison, by estimating the accommodation by the distance of the near point from the anterior focus of the eye, as Dr. Duane has done. Personally, I prefer to estimate the distance from the anterior principal point of the eye, at which point the ocular refraction may be taken as occurring. In any case, the real point of departure has to be the summit of the cornea, and it is quite as easy to estimate from 2 mm. back of the corneal surface as from 13 mm. in front of it. While the principal point gives us a more just conception of the true relations of the amount of accommodation at different ages, especially when the accommodation is strong as in early youth. When it comes to prescribing glasses to supplement the accommodation of the presbyope these are so weak that the distance between the anterior focus and the anterior principal point makes no practical difference (one-tenth diopter for a 3.D. lens) and may be wholly disregarded. However, my chart was constructed on the same plan as Dr. Duane's.

You will note that throughout the results of the two studies of the subject correspond closely, more closely to each other than either does to the chart of Donders. My curves, based on the larger number of cases, show, as would be expected, wider departures between the maximum and minimum and a greater regularity of averages.

My statistics include the minimum powers of accommodation found at the different ages, except in connection with well-marked oculomotor paralysis or acute diseases. Many of the cases might be criticised as distinctly abnormal. And yet it is impossible to draw any sharp line of demarcation between the normal and the abnormal cases, except that line be purely arbitrary. By any scheme the latitude for normal variations of range of accommodation is a wide one. And when the accommodation is about equal in the two eyes; and there is no pronounced ocular or general disease to influence it. The assumption seems fair that the restricted accommodation is due to the same factors, which normally limit the accommodation range.

Of the conclusions reached by Dr. Duane, I would call special attention to tne seventh: The discovery several years ago that an important range of accommodation might be retained to very advanced age was quite a surprise to me. It will be noted that I give the maximum at 70 years as 1.5 D. I have seen almost or quite I. D at 80 years of age. Some of these remarkable cases I have studied very carefully by skiascopy as well as by the ordinary method, making an objective determination of the near point and excluding any influence of a narrowed pupil, or of differences of refraction in different parts of the pupil, that might give the impression of a range of accommodation that did not actually exist. But these cases of the persistence of an important range of refraction to such advanced age are exceptional. On the other hand, are the exceptional eyes, that I must regard as normal, which lose all power of accommodation by the age of 45 or 50. A good many eyes have lost all accommodation before 60, although the persistence of accommodation at this age is much more common than is generally supposed.

With regard to the rather rapid decline of accommodation at certain periods, shown in Dr. Duane's charts, and still more strikingly exhibited by the charts of accommodation of individual cases, there is this to be said: They are probably due, at least to a large extent, to strain of accommodation and to temporary departures from health of the individual. I would regard them as more distinctly abnormal than the low minimums of accommodation that I have admitted in my statistics. The chart shows such a rapid drop between the ages of 40 and 50, when a very large number of people are straining their accommodation to put off the evil day of wearing glasses for presbyopia, or of changing to "stronger" glasses. After adjustment of the proper glasses I have many times seen the decline of accommodation wholly cease for two or three years, and in not a few cases there has been a gradual increase of accommodation extending over several weeks or months. Finally, without detracting from the just fame and pre-eminence of Donders, based on the work that he did in this connection, we can congratulate the section that in this experimental study presented by Dr. Duane there has been a distinct advance in this important field of practical ophthalmology.

Dr. Alexander Duane, New York: When I first began tabulating these cases I found a large number of very low ranges of accommodation. Examining these same patients a year afterward, I found in many instances a higher range of accommodation, and it was evident that the low range previously found had been due to temporary causes in many cases of neurasthenia. That is, I found a neurasthenic weakness of accommodation, which was in a way characteristic, and also found that when the patient's general condition improved the accommodation would come up a number of diopters and be maintained at a high point. More than that, I found that by systematic practice with the test-object described the accommodation could actually be stimulated in these cases. I do not mean, of course, that this could be done in cases of real paresis of accommodation. I mean that in the subnormal accommodation of the neurasthenic the accommodation can apparently be increased by systematic exercises and the patient's subjective symptoms can be correspondingly improved.

Now as to the rapid drop in the accommodation which the same patient may show when examined at short intervals. I agree with Dr. Jackson that in many cases this is abnormal, being due to temporary causes. The marked drop normally occurring between the ages of 38 and 50 is present in both Dr. Jackson's chart and mine, and in my paper attention is called to the fact that this drop is twice as great as Donders found in the same period.

A Herniotomy Under Difficulties.—There is a hospital in Aintab, Turkey, which is famous throughout all Northern Syria. It was established and is presided over by Dr. F. D. Shepard, a medical missionary under the American Board. He was once asked what he considered his most successful surgical operation. He replied: "An operation I once performed for strangulated hernia, in the night, in an old hovel without floor or bed or window, the patient, a man, lying on a mass of filthy rags on the ground that had been trodden by the feet of ten generations at least, my only assistant an old, ignorant woman who held the native oil lamp that gave off 90 per cent. smoke and smell to 10 per cent. of light. The operation had to be performed at once or the patient must die. He made a good recovery, thus proving the uncertainty of the microbe theory as applied to those conditions."

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Clinical Notes

MASTOIDITIS DUE TO THE MICRO-ORGANISMS OF VINCENT'S ANGINA

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NEW YORK

The following case is unique in several particulars. The character of the infection, the pathologic conditions found on operation, and the curative measures adopted were all unusual in my experience.

Patient.—M. C., a girl of 12, was admitted to the New York Eye and Ear Infirmary (service of Dr. Kenefick) and came under my care Dec. 11, 1908. The history was briefly that of a neglected running ear of several month's standing. Two weeks before coming to the hospital the child complained of earache, headache and tenderness back of the ear. A swelling over the mastoid region made its appearance, but nothing was done until the symptoms became urgent and the patient's condition bad. On examination the usual signs of a subperiosteal abscess were found. A large, soft, fluctuating mass occupied the postauricular region, and bulged into and occluded the canal so that inspection of the drum was impossible. Thick, foul pus issued from the meatus. The temperature was 101 F. and the general condition mildly septic.

Operation.—An abscess cavity containing about one and a half ounces of evil-smelling pus was opened by a small incision behind the ear. The mastoid area was then laid open in the ordinary way. The soft parts being retracted, a most unusual picture was revealed. The larger part of the mastoid cortex had disappeared, and left exposed to view a dark-red, spongy mass that filled the entire space normally occupied by the cellular structure of the bone. The dura of the middle fossa was extensively exposed, the lateral sinus uncovered from knee to bulb, and a part of the posterior bony canal wall destroyed. Throughout the spongy mass (which was taken to be partially organized granulations) were scattered small, dark sequestra, like plums in a pudding. The sinus was covered with a stringy, yellowish membrane, giving the appearance at first glance of a thrombosed and shriveled vein. Further investigation, however, showed that the sinus was not involved. All diseased tissue having been removed, the question arose as to whether or not a "radical" operation was indicated. The fact that the middle ear had not been inspected, and the presence of the unusual, gave us pause. Moreover, I hesitated to plaster back flaps on so much exposed dura. It was therefore decided to content ourselves with the simple Schwartze operation. The wound was flushed with alcohol and normal saline solution, closed above, packed with iodoform gauze and dressed.

The laboratory report showed the infection to be a mixed one, due to the micro-organisms of Vincent's angina (*Spirochæta denticola and Bacillus fusiformis*).

Subsequent History.—The patient remained in the hospital twelve days; the temperature became normal and healing progressed satisfactorily, although the dressings were foul and a most penetrating putrid odor persisted. There was a steady gain in the physical condition. The case being of some interest, the patient did after her kind, and promptly vanished on transfer to the outdoor department. She was found by Dr. Eyes, the house officer, at Carteret, N. J., and a month later Dr. Reason, her family physician, kindly had her report at the clinic. The mastoid had healed, but the ear was still discharging. Examination of the pus still showed the bacteria. The patient again remained away for a month, contracting measles. During her illness the trouble in the ear lighted up and a discharging sinus appeared behind the ear, with tenderness and some swelling. On her return she was taken into the ward and a radical operation again considered and rejected as entailing too much risk. The acute symptoms abated, however. After two weeks' further dressing and treatment the sinus refusing to close, I determined to try Dr. North's lactic acid serum,[1] a supply of which the doctor kindly placed at my disposal. The treatment was carried out as follows: The aural canal and sinus having been thoroughly irrigated with normal saline solution and dried by sponging, the child reclined on the side opposite the affected ear, and the serum was simply poured into the canal until it made its appearance in the sinus behind the auricle. A sterile dressing was then applied, and the procedure repeated two days later. Under this treatment the sinus closed and the ear ceased discharging in ten days. After a short period of observation the patient was discharged with a dry ear (the drum and larger ossicles being destroyed of course) and good function, the low whisper being heard at fifteen feet.

The case suggests several observations. The character of this infection in the throat is now fairly well known. Vincent's angina is among the most tenacious and troublesome of diseases. In the mastoid cells the bacteria seem to follow a slow, insidious, but destructive career, giving rise to few symptoms until softening is far advanced. Whether or not they can attack the ear primarily is a question. My belief is that they can not, but owe their entry into the tympanum to the good offices of a preceding infection. North's lactic acid preparation must be given credit for eradicating the disease in this case. Whether it has a specific action against the organisms of Vincent's angina, and whether it will prove efficacious in the throat are questions which should be investigated. The case just related was a favorable one anatomically for the serum, since every part of the cavity could be reached and the medicament retained for a considerable time. Evidence is lacking as to whether the associated organisms described by Vincent are capable of producing the necrosis of tissue found in this case, and as to whether they occur in pure culture. R. J. Held[2] fully reported a case in which a pure culture is said to have existed, and in which there was extensive destruction, death occurring from purulent meningitis, after a radical operation had been done. Held calls attention to the characteristic and persistent odor. At the laboratory of the New York Eye and Ear Infirmary, Vincent's spirillum is found not infrequently in the pus from the middle ear, mastoid and even old brain abscess, but always in association with other organisms.

79 West One-hundred-and-fourth Street.

Hereditary Muscular Atrophy.—The condition of muscle atrophy was traced through a number of family lineages by A. Kehrer (Inaug. Diss., Heidelberg, 1909). It occurs relatively seldom and conforms to the theory of heredity as advocated by Mendel and further extended by Bing. Children otherwise sound were found to show the phenomenon. As was found by Bing for other diseases, hereditary muscle atrophy proved to be transmitted three times as often by the mother as by the father. The disease considered by Kehrer belonged to the dystrophic type of atrophy, and in the main to the scapulohumeral type. The dystrophy often extended to the back muscles, but there is reported a complete absence of nervous symptoms, as well as also all indications of pseudohypertrophy of the muscular elements. Two cases of apparently neurotic muscle atrophy are also described at length. These are considered to be hereditary or endogenous and to represent the total number of cases of such reported in the literature. A tabulation of the cases of neurotic muscle atrophy heretofore reported is given. All of these, however, are associated with tabes or other systemic disorders and are considered purely oxogenous.

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[1] This is a suspension of a pure culture of lactic acid bacteria in bouillon. See North, Charles E.: Reports of 300 Cases Treated with a Culture of Lactic Acid Bacteria, Med. Rec., March 27, 1909.

[2] Post-Graduate, September, 1906.

GASTRIC SARCOMA

G. K. DICKINSON, M.D.
JERSEY CITY, N. J.

History.—For nine days Mrs. S., aged 53, an Italian who could speak no English, was attended by her physician, Dr. Stack of Hoboken, who could not understand Italian. The main observations made were: Rise in temperature, which, at the time of consultation, the ninth day, was 104 plus in the rectum, with a pulse of 110 and respiration in the twenties. The patient placed her hand on the upper portion of the abdomen, seeming there to locate the distress; examination revealed a rigidity of the recti in that region; pressure caused expressions of pain, which was, apparently, more acute at Robson's point; examination of the chest and lower portion of the abdomen elicited no evidence of lesion. A tentative diagnosis of cholecystitis was made and the patient was removed to Christ Hospital. On the tenth day of the disease rectal temperature had dropped to 101; the abdomen had softened and a lump was discovered at the left of the mesial line just below the costal margin. It was deemed advisable to proceed with operation.

Operation.—The patient was celiotomized through the right rectus. The gall bladder was found perfectly normal, containing limpid bile. There was no evidence of past inflammation of it or of the ducts. There were no calculi. The duodenum and pylorus showed no defect. The head of the pancreas was normal to the touch and was not movable. The stomach on delivery was about 17 cm. long, and on its anterior surface midway between the orifices was a nodular growth, hemispherical in shape, 4 cm. in diameter, rather purplish at apex, assuming the color and appearance of the stomach at margin. Its upper edge overlapped the lesser curvature. The stomach was completely delivered, the lesser curvature stretched open, and between clips this growth and a cuff of a centimeter was removed, requiring a V-shaped resection from the anterior wall and a partial resection of over 6 cm. of the lesser curvature. The stomach wound was closed by the usual method and the viscus dropped.

Postoperative History.—The day following the operation the temperature again went to 104, and this elevation of temperature was maintained for six days, with corresponding acceleration of pulse and respiratory movement. On the fifth day after the operation she began coughing and a plastic pneumonia of the right lower lobe was discovered, but from this on a steady convalescence was maintained and she was discharged from the hospital on the fourteenth day after the operation.

Pathologic Report.—The tumor was referred to Dr. G. E. McLaughlin, pathologist of Christ Hospital, who made the following report: "The tumor from Mrs. S., received May 17, 1909, had a distinct capsule, from which it could be shelled out without evidence of special adherence and without any penetration of gastric mucosa. Microscopic examination of the stained sections showed a rather dense mass of large spindle cells with large and well stained nuclei and with numerous capillary blood vessels. In some portions these vessels were very much dilated and of a decided angiomatous type. There was also noticed some dilatation of the lymphatics. Diagnosis: Nodular sarcoma (spindle cell) of the exogastric type."

The reason for reporting this case is the rare occurrence of sarcoma of the stomach and the fact that there are very few cases mentioned in literature in which the histologic report has been given. Hosch, out of 13,387 autopsies of stomach tumors, found six gastric sarcomas. Yates gives the proportion of spindle celled sarcomas as being 33 per cent.; the position of the sarcoma, according to this writer, is generally reverse to that of carcinoma. Fenrick reported but 53 recorded cases of sarcoma which were proved. Of these, 12 were spindle cells.

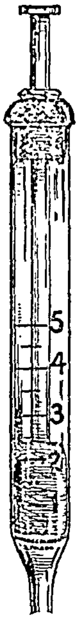
An interpreter was employed after the operation and an effort made to discover any symptoms which might be ascribed to the presence of the growth, but the patient denied any "stomach symptoms."

Of course, the febrile state preceding the operation was not explained by the findings. In conclusion, I am inclined to think that there was a hidden pneumonia which had reached a crisis on the day of the operation, and either through reinfection, or irritation of the anesthetic (ether, drop method), or through an embolic spray from the site of operation, a fresh pneumonia was established.

280 Montgomery Street.

A FILTRATOMETER

GEORGE JONES, M.D.
TOLEDO



The illustration shows a convenient little instrument which is especially useful to those making analyses of gastric filtrates.

It consists of a graduated glass barrel and asbestos-wrapped plunger, the whole apparatus being about the size and shape of an old-style urethral syringe (2 dram). I have used this filtratometer for about a year and have discarded all other pipettes. Its advantages are apparent or will be quickly seen if the instrument is used. I have found no objections to it, and repeated tests have proved that it may be thoroughly cleansed. After drawing up the filtrate, the instrument is taken in one hand, the little finger encircling the barrel above the graduations, while the thumb rests on the top of the plunger and forces the fluid to the desired level. All the fluid may then be expelled by a few short movements of the plunger.

845 Nicholas Building.

DECAPSULATION OF BOTH KIDNEYS FOR ACUTE NEPHRITIS FOLLOWING SCARLET FEVER

G. F. HARDING, M.D.
SALT LAKE CITY

History.—A boy, aged 12, had an ordinary case of scarlet fever with only a moderately high temperature and well-defined rash; was out of bed on the tenth day, feeling well and showing no signs of any complications. Urinalysis, made on the fifteenth day, showed no trace of albumin or sugar; specific gravity of 1023. Twenty days after the onset of the fever the boy was taken with severe vomiting; twelve hours later he had a hard convulsion, and passed a small amount of bloody urine heavily loaded with albumin. The boy was put in hot packs with hot linseed poultices over the kidneys, pilocarpin and digitalin given hypodermatically. This treatment was followed four successive days with no apparent benefit. On the morning of the fifth day there was complete loss of vision and hearing, and a few hours later the patient lapsed into unconsciousness, with complete suppression of urine.

Operation.—Drs. Middleton, Allen and Calderwood were called into consultation on the case, and it was decided to do a Diebold operation on both kidneys. The boy was removed to the Latter Day Saints Hospital the next morning, and under ether anesthesia both kidneys were decapsulated at the same time. They were found to be as large as an adult's kidneys, very tense and congested. On removal of the capsule the blood fairly boiled from the kidney surface, showing the very high pressure it was under.

Postoperative History.—The first twenty-four hours after operation the apparently functionless kidneys secreted twenty-four ounces of urine. On the third day sight and hearing began to return, and at the end of the first week both were normal. The kidneys were also secreting the normal amount of urine. The boy left the hospital on the eighteenth day, able to walk, and feeling normal in every way.

Therapeutics

DIABETES

The dietetic treatment of this disease is well described by Theodore C. Janeway in the *American Journal of the Medical Sciences*, March, 1909.

Before inaugurating any particular diet for the diabetic patient it is necessary to learn exactly his ability to metabolize properly carbohydrates and sugars. Janeway gives the usual caution of not making the diet too rigid for a patient whose ability to care for a carbohydrate-free diet without causing acidemia has not yet been ascertained. However, he states that patients who can not at first stand a rigid diet without the appearance of diacetic and beta-oxybutyric acids in the urine may after a period of such diet be free from such symptoms of increased systemic acidity. It is not the purpose of this article to describe the various standard diets for mild, moderately severe, and severe cases of diabetes; for these the clinician is referred to Dr. Janeway's paper.

The patient is first put on a rigid diet with the addition of a known amount of white bread, three ounces at first, a day. The amount of sugar in the urine is noted and the amount of bread generally reduced, if diacetic acid or ammonia do not appear in the urine. It is thus soon found whether the patient has glycosuria on a carbohydrate-free diet. If glycosuria persists, the patient has the disease in a moderately severe form, and the proteids are then reduced in amount. If with carbohydrate-free and protein-restricted diet the patient still passes large amounts of sugar, then the disease is severe, and the diet that will keep up the patient's weight and cause the least excretion of sugar is the one that should be selected. When the patient's urine becomes clear of sugar on the restricted diet, it will often be found that later one or more of the carbohydrate foods in small amounts may be added, he having acquired a tolerance for them. It may, however, be found that a patient with mild diabetes may tolerate one starch better than another; this should be determined by investigation.

When too little carbohydrate is ingested, or too little burned in the system, the fatty acids are burned, and may form beta-oxybutyric acid, which is perhaps often the precursor of diacetic acid and acetone.

Whenever diacetic acid appears in the urine, which is the acid product whose presence it is the easiest to determine, ordinarily more carbohydrate food should be given, and that immediately, as there certainly is danger of acidemia and coma. Diacetic acid should be tested for on every examination of the urine, and is of as much importance, or more, to the patient, as is the amount of sugar in any given specimen. The simplest test for diacetic acid is a drop of a 5 per cent. ferric chlorid watery solution or a drop of a 5 per cent. ferric alum watery solution in a test-tube one-third full of urine. A crimson color denotes the presence of diacetic acid; the more intense the color, the greater the amount of the acid.

The amount of fat that should be given to offset the carbohydrate removed from the diet must be determined for each individual patient by his ability to digest it without stomach or intestinal disturbance, and by the maintenance of his normal body weight. The more fatty meats may be advised in lieu of actual oil and fats. Janeway finds that a patient will digest more fats when alcohol is allowed him than when he does not take alcohol, and in fact finds that patients on a starch-free diet who must take large amounts of fat can not digest it without alcohol. Of course, alcohol also furnishes heat to the body.

Janeway speaks of the hunger days, or the days of low diet which has now come to be generally advised in diabetic patients, and the same is of advantage in patients with chronic nephritis. In these hunger days of diabetics various simple low nutritives may be given, as broths, some green vegetables, a little butter, a little coffee, and alcohol in some form. Sometimes skimmed milk is an advantageous diet for such a starvation day.

Such changes from much to very little carbohydrate in the food must not be made. The gradation should be gradual and not sudden, and there seems to be less likelihood of acidemia. If acidemia occurs Janeway thinks that it is not often successfully removed by allowing large amounts of carbohydrates, but certainly starches should be freely given if diacetic acid is found in the urine or other symptoms of acidemia are present. It is, however, much better so gradually and carefully to modify the diet with repeated examinations of the urine that acidemia is prevented rather than to combat it when it has occurred.

GAS POISONING

In the *Boston Medical and Surgical Journal*, May 27, 1909, Dr. Harold W. Dana, Boston, describes a method of treatment found successful in all of the six instances reported. While some of the treatment was varied in the individual cases, the main treatment to which Dana ascribes the success is the subcutaneous injection of from 1 to 2 pints of hot sterile modified Ringer's solution. The injection was always made under the breasts, and the solution used is as follows:

Calcium chlorid	.25	gram.
Potassium chlorid	.083	gram.
Sodium chlorid	7.50	gram.
Distilled water	1000.	c.c.

Other treatments which were instituted were oxygen inhalations, the hypodermic injection of 1/40 of a grain of sulphate of strychnin, hot milk by the mouth and sometimes by the rectum, sometimes brandy or whiskey, sometimes 1/100 of a grain of atropin hypodermatically, and sometimes the patient was surrounded with dry heat. Sometimes ammonium carbonate, 0.30 gram (5 grains), once in four hours, was administered. Sometimes caffein was used. A favorite mixture for administration was as follows:

℞.	gm. or c.c.			
Strychninæ sulphatis		008		gr. ⅛
Ammonii carbonatis	1	60	or	gr. xxv
Spiritus frumenti	150			fl.℥v

M. et Sig.: Two tablespoonfuls, in water, every 4 hours.

Leukemia and Kidney Stones.—F. Leclere reports in the *Lyon Médical*, Jan. 10, 1909, a case of leukemia in a man of 55 long subject to gout and voiding gravel and stones at times. The leukemia came on two years ago, and is of the myeloid type with predominance of polynuclears over the myelocytes. Leclere has found only three similar cases on record, which he summarizes and discusses the uric dyscrasia in connection therewith. It seems probable that there is more than mere casual coincidence between the leukemia and renal lithiasis, as recent research has revealed the part played by the leucocytes in the production of uric acid. In three of the four cases there were no signs of kidney stones until after the onset of the leukemia. It is remarkable, he says, that the coincidence of leukemia and renal lithiasis is not more frequent.

New and Nonofficial Remedies

Since the publication of the book "New and Nonofficial Remedies, 1909," the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections to aid in the revision of the matter before publication in the book are asked for.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. PUCKNER, Secretary.

(Continued from page 31)

SODIUM PERBORATE—Sodii Perboras.

Sodium perborate, $NaBO_3.4H_2O$, is the sodium salt of perboric acid. It should contain not less than 9 per cent. of available oxygen.

Sodium perborate may be prepared by the action of an alkali peroxide and carbon dioxide on an alkali borate (U. S. Pat. No. 842,470) and by other methods.

Sodium perborate occurs as a white granular salt, odorless and soluble in water; the solution has a saline taste. It is decomposed by water into hydrogen peroxide and sodium metaborate, $NaBO_3 + H_2O = H_2O_2 + NaBO_2$ producing an alkaline solution. It is decomposed by catalyzers, ferments and animal tissues. Heated to 60° C. (140° F.) it evolves oxygen and when heated to a higher temperature it gradually loses all its available oxygen and water of crystallization.

On adding to 10 Cc. water in a test tube, one drop of potassium dichromate test solution then ten drops of dilute sulphuric acid and pouring a few Cc. of ether on top, the subsequent addition of a few drops of an aqueous solution of sodium perborate will cause a blue color to appear at the zone of contact of the two liquids. After shaking the ether layer will separate with a blue color.

If 0.20-0.03 Gm. sodium perborate accurately weighed be dissolved in 50 Cc. water and 10 Cc. dilute sulphuric acid added, to produce a permanent pink color, not less than 11.25 Cc. tenth normal permanganate solution should be required for each 0.1 Gm. of substance taken (indicating not less than 9 per cent. of available oxygen).

Action and Uses.—Sodium perborate is an antiseptic, deodorant and bactericide, and is used in wounds, purulent sores, varicose ulcers, etc. In general, it is used in place of hydrogen peroxide, over which it has the advantage of yielding an alkaline solution. It is applied as a dusting powder or in a 2 per cent. solution.

Non-proprietary Preparation:

Sodium Perborate Merck. E. Merck, Darmstadt (Merck & Co.).

HEMOGLOBIN—Haemoglobinum.—Haemoglobin, Haematocrystallin. The red coloring matter of blood.

Hemoglobin is a brownish-red powder, soluble in water. It is decomposed by extremely small amounts of acids, coagulates at 64° C. (147.2° F.) and is dextro-rotatory. It does not give characteristic albumin or iron reactions until decomposed. A solution mixed with a little sodium chlorid, evaporated over sulphuric acid to a syrupy consistence, mixed with 15 times its volume of glacial acetic acid and heated on a water bath for several hours, yields on cooling flat rhombic crystals of haematin hydrochloride with a dark violet red color and metallic luster.

Action and Uses.—See organic iron. It is converted into hematin in the stomach.

Dosage.—0.3 to 2 Gm. (5 to 30 grains).

OSMIUM TETROXIDE—Osmium Tetroxidum.—Osmic acid, Osmium anhydride.

Osmium tetroxide, OsO_4, the anhydride of a theoretical acid, is obtained by the action of nitrohydrochloric acid on osmium.

Osmium tetroxide occurs in the form of white or yellowish crystals which are slowly soluble in water (1-50); it is also soluble in alcohol and ether but the solutions decompose. Osmium tetroxide melts at 40° C. (104° F.) and boils at about 100° C. (212° F.). It vaporizes even at ordinary temperatures yielding very irritating and extremely poisonous vapors, attacking the eyes and lungs. It is decomposed by contact with organic substances. (Brit. Codex, 1907).

From aqueous acidified solutions of osmium tetroxide, hydrogen sulphide precipitates brown osmium sulphide, OsS_4 which is insoluble in ammonium sulphide. An aqueous solution of osmium tetroxide decolorizes indigo solution. Iodine is liberated from potassium iodide solutions by osmium tetroxide. Treated with sulphuric acid, aqueous solutions of osmium tetroxide become yellow, turning to brown and finally becoming blue; tannic acid produces a red color becoming brown; ferric chlorid and alcohol reduce osmium tetroxide to the metal osmium.

Action and Uses.—Intraneural injections are used to produce degeneration of nerves for the relief of persistent neuralgias. The treatment is best applied by injecting ½ to 1 Cc. of a fresh 1 to 2 per cent. solution directly into the, preferably exposed, nerve. The result is sometimes immediate, but more commonly it is not complete until after one or two weeks, or it may even fail entirely. If successful, the effects may persist for several months, when it may become necessary to repeat the injection as the cure is rarely, if ever, permanent. The local reaction is always painful, but not serious. It is not advisable, perhaps, to use osmium tetroxide in renal disease.

DEXTROSE.—Saccharum Amylaceum.

Dextrose, $C_6H_{12}O_6 + H_2O$, is a carbohydrate prepared by the action of dilute acids on starch; it also occurs naturally.

Dextrose containing a molecule of water of crystallization occurs in white crystalline masses. It is soluble in its own weight of water at 15° C. (59° F.); in 50 parts alcohol (85 per cent.) at 17° C. (62.6° F.) and in 11 parts at the boiling temperature.

An aqueous solution (1-10) of dextrose should yield after the addition of dilute nitric acid not more than a slight turbidity with either barium nitrate or silver nitrate; and after the addition of ammonia should produce no precipitate with ammonium oxalate.

An aqueous solution (1-20) of dextrose should not change when heated with hydrogen sulphide.

Action and Uses.—Dextrose is quite readily digested and may be used in place of cane sugar as a food.

Dosage.—180 Gms. (6 oz.) daily.

THORIUM NITRATE—Thorii Nitras.—Thorium nitrate, $Th(NO_3)_4 + 4H_2O$, is the thorium salt of nitric acid.

Thorium nitrate occurs as white crystalline granules or lumps. Very soluble in water and alcohol. On calcification yields a voluminous, white oxide, which should amount to 48-50 per cent. of the original salt. The aqueous solution dries over sulphuric acid to a crystalline mass.

An aqueous solution gives a white precipitate with ammonium carbonate, the precipitate being completely soluble in an excess of the precipitant. The aqueous solution gives with caustic alkalies a voluminous precipitate of the hydroxide insoluble in an excess of the precipitant. The presence of tartaric acid prevents the precipitation. Potassium ferrocyanide produces an amorphous precipitate.

Action and Uses.—The soluble thorium salts bear a close resemblance to alum in their local astringent and irritant properties. They are not absorbed from the alimentary canal. Hypodermically, they cause local sloughing, and intravenously, they kill by coagulating the blood. The non-precipitant double salts are practically non-toxic, even intravenously. They are excreted by the kidneys. Thorium salts are fairly radioactive. They have been recommended for local application in malignant diseases and thorium emanation has been inhaled in phthisis. Reliable evidence as to the therapeutic value of thorium salts is lacking.

Dosage.—A solution of thorium nitrate (1 to 5) is neutralized with ammonia and allowed to stand in a bottle four-fifths full; the emanation that accumulates in the vessel is inhaled (Br. Codex).

OIL OF PINE NEEDLES—Oleum Pini.—Oil of Pine (British Pharm., edit. 8), Oleum Pini Pumilionis (Pharm. Austriaca, edit. 8). The oil distilled from the fresh leaves of Pinus Pumilio, Haenke (British Pharm., edit. 8).

Oil of pine occurs as a colorless or faintly yellowish liquid, having a pleasant, aromatic odor, and a pungent taste. The oil is soluble in 4-8 volumes 90 per cent. alcohol (Hager, 1908). Specific Gravity, 0.865 to 0.875; begins to boil at 165° C. (329° F.). (British Codex, 1907.)

It should rotate the plane of a ray of polarized light from 5° to 10° to the left at 15.5° C. (60° F.) in a tube 100 millimeters long. Not more than 10 per cent. should distil below 165° C. (329° F.).

Action and Uses.—Oil of pine is employed principally as an inhalant with hot water for its stimulating and disinfecting action in catarrh of the respiratory passages, chronic laryngitis and bronchitis. It has been applied locally and given internally in the treatment of chronic rheumatic affections. When added to ether it is said to allay the irritation and diminish the bronchial secretion, which frequently become excessive, during or after the production of anesthesia by the latter drug.

Dosage.—0.05 to 0.3 Cc. (1 to 5 minims). The oil is given internally as a respiratory antiseptic and "expectorant," being taken on sugar, in capsules, or in the form of pastilles. It is rubbed over rheumatic joints, which are then covered with cotton wool, or 4 Cc. (1 fluidram) of the oil may be added to a warm bath.

Vapor Olei Pini.—Oil of pine, 10 Cc.; Magnesium Carbonate, 5 Gm.; Distilled water, sufficient to produce 100 Cc.

Mix the oil with the magnesium carbonate and add the water. A quantity sufficient for one inhalation, 4 Cc. (1 fluidram), is to be placed with 300 Cc. (10 fluidounces) of cold water and 300 Cc. (10 fluidounces) of boiling water in an apparatus so arranged that the air to be inhaled may pass through the solution.

Pine oil inhalation is used as a mild antiseptic in catarrhal affections of the respiratory passages.

(To be continued)

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[*For other information see second page following reading matter*]

SATURDAY, JULY 10, 1909

THE PATHOLOGIC ANATOMY AND PATHOGENESIS OF ACUTE APPENDICITIS

After several years of extensive and systematic study, Aschoff, one of the best known pathologists in Germany, has published a monograph on appendicitis[1] which is of great importance because of its scope, its thoroughness and the apparent finality of some of its teachings. It may be of interest to discuss briefly some of the more striking results reached.

In the first place, Aschoff made a thorough study of the normal appendix at various periods of life, using for this purpose the most approved methods. In the newborn the appendix does not contain any lymph follicles in the submucosa and the lining is not folded, but during infancy and childhood the lymphatic tissue in the submucosa greatly increases, the muscularis mucosæ becomes better marked and the mucous membrane folded. In the adult the mucosa presents quite definite furrows, partly longitudinal and partly transverse, and the submucosa consists of lymphatic tissue with follicles of varying sizes and numbers, these being most marked toward the distal end.

Anatomically, Aschoff regards acute appendicitis as always one and the same disease, the different anatomic forms simply representing various stages in development or special complications. A superficial catarrhal appendicitis is not recognized; the attack is held never to begin as a diffuse surface inflammation, but always as one or several foci of primary infection in the crypts and furrows of the mucous membrane and in the subjacent tissue outside of the lymphatic follicles. The first change is a subepithelial accumulation of neutrophilic leucocytes in the bottom of a furrow, corresponding to which there is a small defect in the epithelial lining. In this stage bacteria are found only about the defect and not deeper down in the wall of the appendix. There is also more or less diffuse leucocytic infiltration which spreads out more broadly toward the serous coat than toward the mucous side. Later, in the next stage, various primary foci may coalesce and the muscular and serous coats now become more or less diffusely infiltrated with leucocytes and serum. Most instances of acute appendicitis do not pass beyond this stage, the stage of diffuse inflammation, but subside rapidly.

In case the inflammation progresses, small abscesses form in the wall, which may perforate into the lumen of the appendix and thus give rise to ulcerations; or the perforation may take place into the peritoneal cavity. In some instances the submucosa may be so riddled with abscesses that the mucous membrane is loosened (appendicitis dissecans). Ulcerations arise practically always from purulent softening of the mucosa, beginning in the bottom of the furrows and thence spreading, a fibrinopurulent deposit being often present. The softening may spread into the outer walls of the appendix and give rise to larger perforations. The necrosis preceding the softening is caused partly by the toxic action of the numerous bacteria present and partly by thrombosis of the lymph and blood vessels. Quite typical anemic and hemorrhagic infarcts may form, most often opposite the mesenteric attachment because the blood-supply in this district is poorest. On entrance of putrefactive bacteria the necrosis passes into gangrene.

Aschoff distinguishes three kinds of perforations of the appendix: perforations of miliary intramural abscesses, perforations caused by more diffuse purulent softening of the wall, and perforations associated with gangrene, the latter being the largest.

As stated, acute appendicitis begins in the bottom of the normal furrows of the mucosa, the localization often being determined by obstacles to the current of its contents, as, for instance, behind a bend in the appendix. Aschoff found small fecal stones only three times in normal appendices, otherwise always in diseased appendices; hence the calculi may be regarded as rather a consequence than a cause of appendicitis, the diseased appendix being less able to dispose of the feces and mucus than a normal one. In the previously diseased appendix, calculi are of importance as they may cause retention both in the part behind them as well as in the part immediately in front of them, in the latter case because regular contractions of that part of the wall of the appendix can not take place, and thus maintain conditions favorable for continued reinfections. Accordingly inflammation is oftenest found behind the calculus, occasionally immediately in front, but, so says Aschoff, not at the points at which it comes in contact with the mucous membrane itself; but, as the wall of the appendix is often stretched over the calculus, and the nutrition consequently is not so good at that point as elsewhere, necroses are likely to occur here and lead to the large perforations seen about calculi.

Without entering into any of the details of the healing processes, suffice it to point out that acute primary infections may heal without leaving any trace; that diffuse cellular infiltrations often lead to thickening of the serosa and intermuscular septa, and that ulcerations give rise to scars on the mucosa with deformities of the lumen. More or less actual obliteration of the lumen takes place (58 times in 290 cases), the proportion of such cases being greatest in the fourth and fifth decennia. The most pronounced narrowing and cicatricial occlusions are always found behind a calculus or a bend in the appendix. Now the reparative processes after an acute attack may be prolonged on account of such changes in the lumen and on account of the presence of fecal calculi. The latter may prevent granulating surfaces from coming in contact, and that is one reason why calculi have been and are regarded as a direct cause of ulceration.

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[1] Die Wurmfortsatzentzündung, 1908.

There is, according to Aschoff, no evidence that a primary chronic appendicitis exists; the cases described as such probably are acute inflammations in process of healing; and the so-called physiologic obliteration of the appendix, on which stress has been laid, is also denied because all obliterations he studied were associated with changes indicating pre-existing inflammations.

As for the etiology of appendicitis, Aschoff, from his work, finds no evidence whatever in favor of acute appendicitis in the usual sense arising from hematogenous infection. Micrococcal emboli in the lymph follicles of the appendix occur only in pyemia, and the blood is said to be sterile in acute appendicitis. His tenet is that acute appendicitis originates from enterogenous infection of the mucous membrane at the bottom of furrows in the mucosa. If appendicitis develops after tonsillitis, which clinically there is reason to believe may occur, then the infecting germs probably are transferred to the appendix by way of the intestinal tract and not by way of the blood.

A JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

We have just received the first number of a new journal, the *Journal of Pharmacology and Experimental Therapeutics,* edited, with the assistance of a number of associate editors, by J. J. Abel, the distinguished professor of pharmacology at Johns Hopkins University. This journal is devoted to the publication of original investigations in pharmacology, experimental therapeutics and closely related subjects. The publication of a journal of this character is a most encouraging indication of the rapid growth of pharmacology in this country. It is but comparatively recently that pharmacology has received recognition here as a separate branch of medical science. Both in the medical schools and in the government laboratories the work of the pharmacologist has been done by men who had no special preparation for the work—in the medical schools by clinicians, in the government laboratories by chemists.

Recently there has been a marked development in pharmacology in the United States. A number of medical schools have within the past two or three years established chairs of pharmacology; this movement has been stimulated to no inconsiderable extent by the revelations made by the Council on Pharmacy and Chemistry of the deplorable condition into which the manufacture and sale of drugs had fallen. It is with much gratification that we note the names of four members of the Council on the list of associate editors of this journal. The value of pharmacology has also been recognized by the United States government, which now maintains four well-equipped pharmacologic laboratories in charge of competent pharmacologists.

The spirit of pessimism concerning drug therapeutics which has been somewhat prevalent for some years is giving way to a sane optimism. Many are recognizing the truth of the statement made some time ago by Ehrlich, quoted in the editorial announcement of the present journal: "There can be no doubt that the three great fields of knowledge, pharmacology, toxicology and therapeutics, in their theoretical and practical aspects, form the most important branches of medicine."

The publication of a journal devoted to pharmacology and "experimental therapeutics"—which, after all, is only more or less immediately practical pharmacology—should stimulate further interest in this very important branch of science. The fact that among the associate editors are men eminent as clinicians as well as some of the leading professors of pharmacology and some of the pharmacologists engaged in public health work should give the new enterprise the cordial support of all interested in the advancement of medical science and practice.

WANTED—TRAINED NURSES FOR THE MIDDLE CLASSES

In addressing the graduates of a hospital training school a physician recently departed a little from the usual line of eulogistic remarks about the beneficent and important functions of the trained nurse, and offered some suggestions which are worthy of consideration. The fees of the trained nurse, he said, have been pretty solidly established at a figure that, while within the reach of the well-to-do, is so high as to be almost prohibitive to the great middle class. The very rich can take care of themselves; the very poor are well provided for through various organizations; but the great class of persons whose incomes are not much more than sufficient for their necessary expenses in the style of life which they have to maintain, can not bear, for any length of time at least, the expense of a trained hospital nurse. In such cases the attending physician often has to forego his fee in order that proper nursing may be had. The physician's suggestions are: first, that the last six months of the nurse's training be spent in work outside of the hospital and that a moderate fee, say twelve or fifteen dollars a week with or without bed and board, be charged for such services. Let this money all be paid either to the hospital or the nurse, or let it be divided between them, and let this outside work be supervised by the head nurse of the training school, who should visit the patient at short intervals and offer such suggestions as are necessary. In this way the nurse is given some valuable practical experience and people of so-called moderate means can secure competent nursing for what is to them a possible compensation. This would not reach all classes which would require and deserve attention. A man trying to rear a family on a hundred dollars a month could hardly afford to pay out one-half or two-thirds of his salary as nurse's fees for many weeks, but it would be better than the present condition of things. The second suggestion was that certain nurses should establish a practice of going out to nurse by the hour, a plan already in practice in certain cities and one that needs to be more generally known and systematized. A third suggestion was that hospitals should graduate three grades of nurse, according to the length of time of training, distinguished by different badges and diplomas and their fees be graded accordingly, those who have had the least training charging the least. As a lay paper says, this last scheme is a little more doubtful, and it applies to it Gresham's law of bad money driving out good money; the high-priced nurse might find herself short of work while her cheaper sisters were busy. Perhaps, the nursing profession can hardly be expected to be as altruistic as the medical profession, but something should be done for the better treatment of the great middle class who constitute the greater part of the real worth of any country and have necessarily to bear the greater part of its burdens.

A HEALTHY TROPICAL SERVICE

Campaigning in the tropics will not be the perilous occupation hereafter that it has been in the past, according to Major General Barry's statement that the soldiers under his command in Cuba had a much lower non-effective rate than troops stationed in the United States. It must be remembered, however, that his men were regulars. An equal force of volunteers taken fresh from civil occupations would probably show a less favorable figure with two and a half years' residence in a climate so different from that to which they had been accustomed. Admitting this, however, a repetition of the experience of the Cuban war would hardly be expected.

We have learned a great deal in the last eight or nine years, both from our own experience and from the results of the Japanese war, as regards army sanitation. Colonel Gorgas' address published in our last issue has shown how a much larger army than that of General Barry, and of non-combatants, can endure hard work in the tropics and yet preserve its health. His opinion that the tropics will become the centers of future civilizations may not be altogether accepted. It is yet many years, perhaps centuries, ahead of us, but we can not discount its possibility, as would have been done by almost every one a very few years ago. There are some who believe with Dr. Woodruff and others that the tropics are deadly to the best development of the white race, but the possibility of white men becoming acclimated to the hot portions of the earth seems much nearer now than in the past.

Another Medical School for China.—It is proposed to build and endow an institution in China modeled after the Harvard Medical School, to be administered in this country by a board of trustees which includes ex-President Eliot and other eminent Harvard men. While independent of all religious or missionary control it will supplement with the best scientific instruction the hospital work now carried on by missionary physicians, who have laid broad and deep foundations in that empire for the study and practice of medicine.

Medical News

ARKANSAS

New Members of State Board.—The governor, on June 1, appointed the following members of the State Medical Board of the Arkansas Medical Society: Dr. Frank B. Young, Springdale, to succeed Dr. George V. Poyner, Green Forest; Dr. William S. Stewart, Pine Bluff, to succeed Dr. Vernon MacCammon, Arkansas City; and reappointed Drs. Fred T. Murphy, Brinkley, and James C. Wallis, Arkadelphia.

Personal.—Dr. H. N. Street has been elected assistant professor of gynecology and pelvic surgery, and Dr. George H. Martindale, Hope, has been elected professor of theory and practice of medicine in the College of Physicians and Surgeons, Little Rock.——Dr. Clinton P. Merriwether, Little Rock, has been elected secretary of the board of trustees of the Arkansas Tuberculosis Sanatorium. Drs. George S. Brown, Conway, and Jefferson D. Southard, Fort Smith, are also members of the board.——The recently organized Lawrence County Board of Health consists of Dr. John E. Pringle, Hoxie, president; Dr. John C. Hughes, Walnut Ridge, secretary; and Dr. William J. Robinson, Portia.

ILLINOIS

Personal.—Drs. George W. Boot, Evanston; Samuel M. Wylie, Paxton; John F. Page, Eureka; William B. Peck, Freeport; and Thomas H. Wagner, Joliet, have sailed for Europe.——Dr. Joseph Robbins, Quincy, is still seriously ill in Blessing Hospital.

Golden Jubilee Celebrated.—Champaign County Medical Society, on June 26, celebrated its golden jubilee, at which two of the charter members of the society were present, Drs. Hartwell C. Howard, Champaign, and John T. Miller, Urbana. The society was organized March 4, 1859.

Hospital Notes.—About $3,000 was cleared for the proposed Lake Forest Hospital for Contagious Diseases at the annual horse show, July 2 and 3.——The new addition to St. Joseph's Hospital, Bloomington, recently erected at a cost of about $75,000, was opened for public inspection June 19 and 20. The addition includes about seventy rooms and wards.——The Hospital Aid Society of Monmouth, at its session June 16, voted $1,000 to the building fund.——The Jewish Consumptive Relief Society dedicated its building for female patients, June 27. The building has been presented to the Chicago-Winfield Tuberculosis Sanatorium, and will accommodate 10 patients.

Chicago

Personal.—Dr. and Mrs. E. Wyllys Andrews, Dr. and Mrs. Nathan S. Davis and family, Dr. Edmund J. Doering, and Dr. Edward Luehr have gone to Europe.——Dr. Anton G. Carlson has been appointed professor of physiology and Dr. H. Gideon Wells, professor of pathology in the University of Chicago.——Dr. Albert J. Ochsner has been elected president of the Wisconsin University Alumni Association.

Extermination of Flies.—The Department of Health of Chicago has issued an illustrated poster entitled "Speaking of Flies!" the text of which is four-fold, and is as follows:

> "Don't allow flies in your house."
> "Don't permit them near your food—especially milk."
> "Don't buy foodstuff where flies are tolerated."
> "Don't eat where food has been exposed to flies."

The poster sets forth the dangers due to flies, what to do to get rid of flies, and how to eliminate the breeding places of flies.

INDIANA

Found Not Guilty.—Dr. George E. Snearly, Roann, charged with having poisoned his wife, has been exonerated, as the autopsy disclosed no poison. It is stated that the prosecution was the result of malice or meddlesome gossip.

May Disease and Deaths.—The order of disease prevalence for May was rheumatism, tonsillitis, bronchitis, measles, influenza, pneumonia, diarrhea, pleurisy, scarlet fever, whooping cough, intermittent fever, remittent fever, typhoid fever, and diphtheria. There were 2,793 deaths, equivalent to an annual death rate of 12 per 1,000. The deaths of children under one year of age numbered 341, and the deaths of those 65 years old and over, 867. Tuberculosis caused 384 deaths; typhoid fever, 35; diphtheria, 5, and smallpox, 1 death.

Commencement.—The commencement exercises of the Indiana University School of Medicine were held in Bloomington, June 23. President David Starr Jordan of Leland Stanford, Jr., University, Palo Alto, Cal., an alumnus of the college, delivered the address of the occasion on "The Burbanking of the Human Race." A class of 64 was graduated. The election of officers of the Alumni Association resulted as follows: Dr. Frederick R. Charlton, Indianapolis, president; Dr. Leslie Maxwell, Indianapolis, vice-president; and Dr. J. Don Miller, Indianapolis, secretary-treasurer.

Personal.—Dr. Harry C. Sharp, formerly surgeon of the Indiana State Reformatory, Jeffersonville, has been appointed a trustee of that institution.——Dr. J. William McKinney, Bluffton, who suffered from appendicitis at Atlantic City, N. J., June 11, and was operated on in the German Hospital, Philadelphia, is reported to be doing well.——Drs. George D. Kahlo, French Lick, and Herbert T. Wagner, Indianapolis, have gone abroad.——Dr. Charles J. Overman has been elected secretary of the board of health of Marion.——Dr. J. Preston Christie has succeeded Dr. Edgar F. Kiser, resigned, as superintendent of the Indianapolis City Dispensary.

IOWA

Abolishes Public Drinking Cups.—The Iowa Central railroad, in accordance with the wishes of the State Board of Health, has abolished public drinking cups on all its trains. Water will be provided but passengers must furnish their own cups.

Graduation Exercises.—The Sioux City College of Medicine graduated a class of six, May 25. The address was delivered by W. L. Harding and the diplomas were presented by Dr. Frederick E. Franchere, president of the college. The college will open for its fall term in a new location nearer the center of the city.

Society Meeting.—At the semi-annual meeting of the Iowa Medical Society, held in Iowa City, June 22, Dr. Hugh T. Patrick, Chicago, gave a clinical demonstration of the differential diagnosis of organic and functional diseases of the nervous system; Dr. Joseph C. Beck, Chicago, gave a clinic on diseases of the ear, nose and throat; Dr. James R. Guthrie, Dubuque, gave a gynecologic clinic; and Dr. John B. Kessler, Iowa City, a clinic on skin diseases. The following officers were elected: Dr. Alexander Crawford, Mount Vernon, president; Dr. John B. Kessler, Iowa City, vice-president; Dr. Frederick G. Murray, Cedar Rapids, secretary; Dr. George P. Carpenter, Cedar Rapids, treasurer, and Drs. Lawrence W. Littig, Iowa City, Edwin Burd, Lisbon, and Frank S. Skinner, Marion, censors.

Personal.—Dr. William W. Bowen, Fort Dodge, is a patient in a Philadelphia hospital on account of an accident to his eye.——Dr. Charles F. Smith, Des Moines, has been elected a member of the board of trustees of Drake University.——Dr. Benjamin E. Eversmeyer has been selected as health officer of Muscatine.——Dr. Edward E. Blythe, Reinbeck, formerly a member of the medical faculty of the University of Iowa, sustained severe injuries to the face and eyes by an explosion of gasoline.——Dr. Charles S. Grant, Riverside, has been appointed surgeon of the Fifty-fourth Infantry, Iowa N. G., with rank of major, and Dr. Donald Macrae has been appointed assistant surgeon of the Fifty-sixth Infantry with rank of captain.——Dr. and Mrs. Lawrence W. Littig, Iowa City, have returned from Europe.

MARYLAND

Medical Care for National Guard.—At the encampment of the Maryland National Guard to be held at Westminster, July 18-25, systematic medical care is to be provided. A field hospital is to be established and hospital corps arrangements will be consolidated. Each regiment will have a dispensary for treatment of minor cases, the more severe cases being taken to the field hospital, which will have a capacity for 12 patients. Strict sanitary inspections will be made. Major Alexius W. McGlannan, brigade surgeon, N. G. Md., will have charge of these arrangements.

Expert Testimony Bill.—At a meeting of the Maryland Psychiatric Society, held June 30, the "Expert Testimony" bill prepared by the Baltimore Bar Association for presentation to the next legislature was discussed by members of the association and physicians. The bill provides that the judge shall appoint experts and fix their fees, and they will therefore possess official standing and not be so likely to be partisans. The expert, after investigation, is to submit to each counsel a written report before testifying. A committee of three physicians was appointed to confer with a like committee from the bar association on the parts of the bill at which physicians and lawyers are at variance.

Baltimore

Personal.—Drs. Robert M. Beech, Arthur S. Lovenhart, and William Green have sailed for Europe.——Dr. H. Warren Buckler will be resident physician at Jamestown, R. I., for the summer, and Dr. John A. Luetscher, resident physician at Ocean City, Md.——Dr. Irving J. Spear has been appointed clinical professor of neurology and psychiatry at the University of Maryland.

MASSACHUSETTS

Carnation Day.—The Lynn Tuberculosis Committee announces a net profit of $2,056.41 from the sale of carnations on Carnation Day, which will be applied toward the establishment of a day camp for tuberculosis.

Floating Hospital.—The Boston Floating Hospital made its first trip for the season June 30. A bronze tablet has been placed at the entrance of the boat acknowledging the services of Rufus B. Tobey, founder of the Boston Floating Hospital.

Hospital Buys Land.—The Massachusetts General Hospital has purchased all of the land of the Parkman estate, lying between the hospital on the north, North Anderson street on the east, Cambridge street on the south, and North Grove street on the west, at a cost of more than $166,000.

MICHIGAN

Commencement.—The forty-first annual commencement exercises of the Detroit College of Medicine were held May 27. The faculty address, "The Road to Success," was delivered by Dr. J. Henry Carstens, and Dr. Ernest L. Shurly presented the diplomas.

Dangerous Communicable Diseases.—During May, there were reported in the state, 161 cases of pneumonia, 102 cases of typhoid fever, 159 cases of diphtheria, 34 cases of meningitis, 75 cases of whooping cough, 287 cases of scarlet fever, 1,216 cases of measles, and 70 cases of smallpox.

Personal.—Dr. and Mrs. Ovidus A. Griffin, Ann Arbor, sailed June 19, for Europe.——Dr. Harry W. Long has qualified as health officer, and Dr. John O. Groos, as city physician of Escanaba.——Dr. Perry Schurtz has been elected chief of staff, Dr. Robert J. Hutchinson, vice-chief, and Dr. Christian Vander Veen, secretary of the medical staff of Butterworth Hospital, Grand Rapids.——Dr. George H. Voelkner has been appointed a city physician of Detroit.——Dr. John W. Hoffman, in charge of the hospital work of Detroit, has resigned.

Vital Statistics for May.—During May, there were 3,117 deaths reported, equivalent to an annual death rate of 14.2 per 1,000. Of these 518 were of infants under one year of age, 193 of children from one to four inclusive, and 1,007 of individuals sixty-five years of age and over. Among the important causes of deaths were tuberculosis, 251; pneumonia, 218; violence, 165; cancer, 134; measles, 49; influenza, 46; enteritis of infants, 40; typhoid fever, 34; meningitis, 27; diphtheria and scarlet fever, each 26, and whooping cough, 22. Three deaths were reported from tetanus during the month.

NEW JERSEY

Sanitarium Opened.—The North American Sanitarium for Convalescent Children opened for its eighth season at Atlantic City, June 21. It is announced that this year the sanitarium will devote its attention to the care of cases of tuberculous diseases of childhood.

Vital Statistics for May.—During the month ended May 15, 2,955 deaths were reported in the state, a decrease of 378 from the previous month. Of the deaths, 505 were of infants under 1 year of age, 324 of children between 1 and 5 years of age, and 883 of individuals 60 years old and more. Chief among death causes were tuberculosis, 390; pneumonia, 375; diseases of the circulatory system, 345; diseases of the nervous system, 316; diseases of the respiratory system, 252; nephritis, 213, and cancer, 132. Of the communicable diseases, diphtheria caused 56 deaths; scarlet fever, 45; measles, 34; whooping cough, 27, and typhoid fever, 14.

State Society Meeting.—The one hundred and forty-third annual meeting of the Medical Society of New Jersey was held in Cape May, June 22-25, under the presidency of Dr. David St. John, Hackensack. The following officers were elected: President, Dr. Benjamin A. Waddington, Salem; vice-presidents, Drs. Thomas H. Mackenzie, Trenton; Daniel Strock, Camden, and Norton L. Wilson, Elizabeth; corresponding secretary, Dr. Harry A. Stout, Wenonah (re-elected); recording secretary, Dr. William J. Chandler, South Orange (re-elected); treasurer, Dr. Archibald Mercer, Newark (re-elected), and councilors, Drs. Thomas W. Harvey, Orange; Edward F. Denner, Paterson; William A. Clark, Trenton; William H. Izard, Camden, and James Hunter, Westville, and delegates to the American Medical Association, Drs. Claudius R. P. Fischer, Bound Brook; Alexander Marcy, Riverton, and Luther M. Halsey, Williamstown. It was decided to hold the next annual meeting in Atlantic City.

NEW YORK

New York City

Personal.—Coroner Robert F. McDonald of the Bronx was seriously injured in an automobile accident.——Dr. and Mrs. S. Oakley Vanderpoel; Dr. and Mrs. Samuel E. Getty, Yonkers; Dr. and Mrs. M. Allen Starr, Dr. and Mrs. Walter F. Chappell and Dr. and Mrs. Russell S. Fowler have sailed for Europe.

Junior Seabreeze Open.—The Rockefeller Summer Hospital for Babies, managed by the New York Association for Improving the Condition of the Poor, has been opened. One feature of the work will be the daily conference for mothers at which the nurses will instruct mothers in the proper care of their babies.

Anti-Noise Ordinance Passed.—An ordinance has been passed and awaits the signature of the mayor, which provides that no peddler, vendor or huckster shall blow any horn or other instrument or make any improper noise tending to disturb the peace and quiet of a neighborhood for the purpose of directing attention to his wares. The penalty is to be not more than $5 for each offense.

Lowest Death Rate Since 1860.—The death rate for New York City for the first six months of 1909 is lower than it ever has been since 1860. The death rate in 1904 was 22.08; in 1905, 19.04; in 1906, 18.88; in 1907, 18.99; in 1908, 17.59, and in 1909, 16.92. In 1904 there were 210 deaths from typhoid fever, but only 169 in 1909. There has, however, been a notable increase in the number of deaths from organic heart disease. In 1904 there were 2,656 deaths from cardiac disease and 3,673 in 1909. This year there have been 84 more deaths from sunstroke than in all four of the preceding years.

OHIO

Personal.—Dr. Robert C. Longfellow, Toledo, has been appointed consulting clinical bacteriologist of the volunteer staff of the Ohio Sailors' and Soldiers' Home Hospital, Xenia.——Dr. Ora O. Fordyce has succeeded Dr. O. H. Rorick, resigned, as superintendent of the Athens State Hospital.——Dr. Hugh A. Baldwin, Columbus, returned from Europe June 13.——Dr. Henry C. Schoepfle has been reappointed health officer of Sandusky.

Ill and Injured.—Dr. Milton S. Williamson, Findlay, who has been ill with pneumonia and pleurisy, is reported to be improving.——Dr. Francis M. Michael, N. Eaton, is reported to be critically ill.——Dr. Hugh G. Campbell, Logan, is reported to be seriously ill in Grant Hospital, Columbus.——Dr. James A. Sherbondy, Youngstown, was operated on in the City Hospital for appendicitis, June 16.——Dr. William D. Deuschle, Columbus, is suffering from a badly contused shoulder, the result of an automobile accident.

Cincinnati

Want New College Buildings.—Arguments were made before the city council for a large bond issue for university purposes. Nearly $300,000 was asked for new medical buildings which have become an imperative necessity since the merger of the Ohio and Miami Medical colleges.

Commencement.—Under the auspices of the University of Cincinnati, the Medical College of Ohio and Miami Medical College graduated their last separate classes, June 16, the former institution issuing diplomas to 31, and the latter to 17.

Dr. Phelps Honored.—Dr. Albert T. Phelps, who recently resigned as secretary and as a member of the faculty of the Medical College of Ohio, was given a complimentary dinner by the faculty, alumni and students, June 2. Dr. Joseph Ransohoff acted as toastmaster. Dr. Phelps has declined the position of dean of the merged colleges and expects to enter practice in Watch Hill, R. I.

Alumni Association Merged.—On June 4, the first banquet of the combined alumni of the Ohio and Miami Medical Colleges was held, with over 200 in attendance. The following officers were elected: President, Dr. E. Otis Smith; vice-presidents, Drs. Walter Griess and Charles A. Langdale; secretary, Dr. Charles E. Iliff; treasurer, Dr. W. H. Streitmann, and executive board, Drs. W. H. Campbell, H. V. A. Spargus, Robert W. Bledsoe, Sidney Lange, Frederick W. Lamb and Clement C. Fihke.

Personal.—Dr. Julius C. Stammel has been appointed resident physician of the Boys' Industrial Home, Lancaster, O.——Dr. Horace J. Whitacre was thrown from an automobile, June 1, and sprained his wrist.——Dr. Sidney Lange has been appointed radiographer on the staff of the Cincinnati Hospital.——Dr. William Muhlberg has been added to the faculty of the department of medicine, and Dr. S. P. Kramer to the faculty of the department of surgery in the Ohio-Miami Medical College.——Drs. John M. Withrow, Miriam Schaar and Dr. Christian R. Holmes have gone abroad for the summer.

PENNSYLVANIA

Advisory Health Board Appointed.—On June 30, Governor Stuart appointed the following members of the advisory board of the State Department of Health: Drs. Leonard Pierson and Charles E. B. Penrose, of Philadelphia, Dr. Adolph Koenig, Pittsburg; Dr. George W. Guthrie, Wilkesbarre; B. Harry Warren, West Chester, and Lee Masterton, Johnstown.

Philadelphia

Old Municipal Hospital Empty.—The last of the patients in the old Municipal Hospital, comprising 87 children suffering with diphtheria and a convalescent smallpox patient, were removed, June 30, to the new institution.

Personal.—Drs. Wharton Sinkler, J. M. Godfrey, C. Sigmund Raue, Burton A. Randall and Gordon M. Christine, have sailed for Europe.——Dr. James M. Anders has been made an officer of l'Instruction Publique by the French government.——Drs. George Woodward, William W. Keen and John H. Musser have been appointed trustees of the newly organized Philadelphia Bureau of Municipal Research.——Dr. Benjamin B. Wilson was thrown from his carriage, June 30, and seriously injured.

Bequests.—The will of the late Mrs. Julia D. Stroud bequeaths $15,000 to the Eliza Cathcart Home for Incurables.——The will of the late Harry S. Henry directs that at the death of his wife and sisters, his estate shall be divided in equal portions among the following institutions: Hospital of the University of Pennsylvania, the Hospital of the Protestant Episcopal Church of Philadelphia, the Presbyterian Hospital and the Board of Managers of the Contributors to the Pennsylvania Hospital, share and share alike for the establishment and maintenance in each of the said hospitals of a ward to be known as the H. S. Henry ward for the treatment of white children only.

Psychologic Clinic.—Mentally and morally defective children are to be examined at the new physiologic clinic which opened at the University of Pennsylvania, July 7. Clinics will be conducted daily, except Saturdays and Sundays, until August 17. Parents may have children examined free and courses of education and treatment will be advised or parents will be directed to the proper institutions for training and treatment. The clinic will be under the direction of Dr. Arthur Holmes, instructor of psychology in the university, assisted by Dr. Seymour P. Ludlum, instructor of neurology and neuropathy, Dr. William Burdick, Dr. Clara H. Town, psychologist at the Friends' Asylum for the Insane, and Dr. Stevenson Smith.

Dispensary for Epileptics.—A few months ago as the result of papers read before a local medical society and the Presbyterian Ministerial Association of Philadelphia, "The Society for the Securing of Suitable Employment for Epileptics" was formed. It is estimated that there are at least 2,000 epileptics in Philadelphia alone, and as yet there is no institution for the exclusive and special oversight of these patients where they may be treated without leaving home and while at their daily avocations and where, at the same time, efforts are being made to secure suitable work for the unemployed, so that accidents consequent on sudden seizures may be prevented. The Letchworth Clinic for the Home Treatment of Epileptics has been formed, and together with the society first named will study the means for the prevention and care as well as cure of epilepsy, and will establish a propaganda for the enactment of a law prohibiting the marriage of epileptics until at least three years after recovery. The medical staff of this important charity is composed of Drs. Matthew Woods, J. Madison Taylor, John H. Rhein, Charles E. deM. Sajous and William M. Clapp.

Filtration Reduces Typhoid Fever.—The report of the director of health for the first six months of this year shows a marked diminution in typhoid fever, and the cause of this change is attributed by the health authorities to the use of filtered drinking water. The total number of cases of typhoid reported since January 1 aggregates 1,383, as compared with 2,195 cases reported during the corresponding six months of last year, a decrease of 812 cases. The figures for the first half of this year are still more marked by comparison with those for the first six months of 1907, when 5,005 cases were reported or 3,632 more than occurred this year. Based on the number of cases for the current six months, it is estimated that the total number of cases this year will not exceed 2,000, or 80 per cent. less than the number reported in 1906. In that year there were 9,721 cases reported, and at that time only a small section of the city was receiving filtered water. The following year, with the extension of the filtered water supply, the number of cases was reduced one-third, and by a further extension of the filtered water last year another decrease of 40 per cent. was made. With the exception of parts of the four wards, which still receive raw water, the whole of the city has been receiving filtered water since March 1. The reduction of the cases in typhoid may be further illustrated by the fact of the early months of 1906, when the weekly number of cases of typhoid fever was from 300 to more than 400. For the week ended June 26, only 17 cases were reported. In the week preceding 22 cases were reported, and in the week prior to that 15 cases, the smallest number in the history of the Bureau of Health. The mortality from typhoid fever has correspondingly decreased from 606 in 1907 to 351 in 1908 and 205 (estimated) in 1909.

TEXAS

Commencement.—The medical department of the University of Texas held its eighteenth annual commencement exercise, May 29, when a class of 37 was graduated. Dr. William Keiller delivered the faculty address, and the diplomas were presented by President Mezes of the university.

State Medical Board Re-election.—At the annual meeting of the State Medical Examining Board, held in Cleburne, the following officers were re-elected: President, Dr. James D. Osborne, Cleburne; vice-president, Dr. John D. Mitchell, Fort Worth, and secretary, Dr. Marquis E. Daniel, Honey Grove.

Personal.—A banquet, followed by a smoker, was tendered Dr. Charles M. Rosser by the medical fraternity of Dallas, June 5.——Dr. Paul Renger has been appointed health officer of Hallettsville.——Dr. George W. Larendon, city health officer of Houston, has been appointed a state health officer.——Dr. John F. Y. Paine has resigned as professor of obstetrics and gynecology in the State Medical College, Galveston.——Dr. David Berry, San Antonio, has been appointed physician of Bexar county.

Ruling on Osteopathy.—The Court of Criminal Appeals holds that the practice of osteopathy is healing the sick and the practice of medicine, thereby bringing osteopathic practitioners under the provision of the state medical act. It was so found in the case of Ira W. Collins, El Paso, charged with failure to secure license to practice medicine in Texas, who instituted habeas corpus proceedings, but was remanded to the custody of the sheriff, and this action was sustained by the court of appeal.

State Board of Health Named.—The governor, on May 21, named the six physicians who, with Dr. William M. Brumby, Houston, state health officer, will compose the State Board of Health: Drs. Hatch W. Cummings, Hearne; Jacob E. Gilcreest, Gainesville; John W. Burn, Cuero; M. H. E. Whitesides, Timpson; Thomas F. Burnet, Seymour, and Boyd Cornick, San Angelo.——Dr. Edward B. Parsons, Palestine, has been appointed a member of the State Board of Health, vice Dr. M. H. E. Whitesides, Timpson, resigned on account of ill health.

WASHINGTON

New Hospital.—Dr. Frank H. Collins has opened a new hospital in Goldendale, which has accommodation for 15 patients.

Secures Damages from Physician.—The jury in the case of Leslie Lamb versus Dr. Charles P. Thomas, Spokane, in which damages were sought on account of the alleged leaving of a roll of gauze in an operation wound, is said to have found for the plaintiff, June 18, and to have assessed the damages as $889.

Personal.—Dr. Philip Frank, North Yakima, has succeeded Dr. Thomas Tetreau as health officer of Yakima county.——Dr. Wilbur W. MacKenzie, Spokane, fractured his right wrist while cranking his automobile, June 18.——Dr. Alice Hall Chapman, Woodland, seriously injured her left hand, June 15, by the explosion of a gopher gun which she was placing in position.——Dr. W. L. Ludlow, Seattle, has resigned as physician of King county.——Dr. James A. LaGasa, city bacteriologist of Tacoma, has been appointed health officer, vice Dr. Spiro Sargentitch, resigned.——Dr. Hilbrand J. Hards has been chosen city bacteriologist of Tacoma.

WISCONSIN

Will Direct Pasteur Institute.—Dr. Mazyck P. Ravenel, director of the State Hygienic Laboratory, Madison, will, it is said, be placed at the head of the Wisconsin Pasteur Institute recently established in connection with the state laboratory.

New Hospital.—The Knowlton Hospital, Milwaukee, has been sold to a Milwaukee syndicate which proposes to enlarge it and carry it on as a non-sectarian institution. The incorporators have chosen "Columbia Hospital" as the name of the institution.

Exaggeration.—Dr. Marshall Surenson, Viroqua, whose death was announced in the March 13 issue of THE JOURNAL, writes asking the correction of the item, as he is "not dead yet." The information was derived from the *Wisconsin Medical Journal* for January.

Graduation Exercises.—At the annual graduation exercises of the Wisconsin College of Physicians and Surgeons, Milwaukee, May 27, a class of 15 received diplomas from the dean of the faculty, Dr. A. Hamilton Levings. The doctorate address was delivered by President Wilbur O. Carrier of Carroll College.

Personal.—Dr. and Mrs. Lewis J. Daniels, Milwaukee, sailed for Europe, June 10.——Dr. Lawrence P. Mayer, Hudson, who has been seriously ill with septicemia in St. Paul, is convalescent.——Dr. William A. Gordon, Oshkosh, is reported convalescent.——Dr. Frank J. Pope has been chosen president of the board of health of Racine.——Dr. Frederick R. Hyslop has been elected health officer of Whitewater.

Medical College Affiliation.—Dr. Thomas C. Phillips has been appointed dean of the Wisconsin College of Physicians and Surgeons, the medical and dental departments of Carroll College.——On June 15 the trustees of Carroll College, at their annual meeting, voted unanimously to accept the proposition of the Wisconsin College of Physicians and Surgeons, Milwaukee, to affiliate with that institution.

GENERAL NEWS AND COMMENT

Carroll Fund Oversubscribed.—As more than enough money has been contributed to meet the needs of the committee in charge of the fund to pay for the home for the widow and children of the late Major Carroll, it is especially requested that no more subscriptions be made. The following amounts have been received since the last report:

Medical Officers, U. S. Army	$20.00
U. S. P. H. and M.-H. Service	10.00
Dr. W. H Sharp, Parkersburg, W. Va	1.00
Dr. Katharine R. Collins, Atlanta, Ga	5.00
Dr. A. B. Nickee, San Francisco	5.00
	41.00
Previously acknowledged	8,196.31
Total	$8,237.31

Interstate Association Meeting.—The sixth annual meeting of the N. S. Davis District Medical Association, whose territory includes parts of Iowa, Illinois and Missouri, will be held in Keokuk, Iowa, July 13, under the presidency of Dr. Elmer E. Sherman, Keosauque, Iowa.

Neurologists Elect Officers.—At the annual meeting of the American Neurological Association, held in New York City, May 27-29, the following officers were elected: President, Dr. Morton H. Prince, Boston; vice-presidents, Drs. John K. Mitchell, Philadelphia, and Herman H. Hoppe, Cincinnati; secretary-treasurer, Dr. Alfred R. Allen, Philadelphia, and councilors, Drs. Charles L. Dana, New York City, and James J. Putnam, Boston. The next meeting will be held in Washington.

Transportation of Lepers.—An amendment to the interstate quarantine regulations has been issued by the Public Health and Marine-Hospital Service, which provides that lepers may be accepted for transportation under proper supervision when en route to seaport of deportation, also for transportation to a designated place for care and treatment, with the necessary consent of the proper health authorities, provided proper sanitary regulations are enforced with regard to the leper en route to destination.

CANADA

Gift to McGill.—Lord Strathcona, Canadian High Commissioner in London, has given half a million dollars to McGill University. Of this amount, $450,000 is to be used for completing the new medical building, and the balance for the augmentation of salaries of the faculty.

Personal.—Drs. Ridley McKinzy and Thomas G. Roddick, Montreal, will spend the summer in Europe.——Dr. and Mrs. William B. Thistle, Toronto, are taking a trip to Seattle and the Pacific coast.——Dr. Robert M. Coulter, Ottawa, deputy postmaster general of the Dominion, has returned from a trip to Australia and New Zealand.——Dr. Benjamin G. Bourgeois has been appointed house surgeon of Notre Dame Hospital, Montreal.

Hospital Notes.—The Montreal Maternity Hospital has urgent need of funds for its current expenses of about $2,000 per month. The May deficit amounted to $1,200. Friends have recently contributed $1,600 to defray current expenses.——The sum of $75,000 is needed by the board of management of the Royal Columbian Hospital, New Westminster, for the erection of new buildings, rendered necessary by the constantly increasing number of inmates in the present institution.——Dr.

Lorne McGibbon, Montreal, has given $125,000 for the erection and equipment of a sanatorium for tuberculosis at St. Agathe in the Laurentian mountains.

Provincial Medical Association Meets.—The first annual meeting of the Manitoba Medical Association was held in Brandon, June 22 and 23. It was unanimously decided to affiliate with the Canadian Medical Association. The following officers were elected: President, Dr. W. Harvey Smith, Winnipeg; vice-presidents, Drs. Harvey E. Hicks, Griswold, and John S. Matheson, Brandon: honorary secretary, Dr. Jasper Halpenny, Winnipeg; honorary treasurer, Dr. Robert F. Rorke, Winnipeg; executive committee, Drs. Henry A. Wright, Oak Lake; F. S. Keele, Portage LePrairie; Daniel G. Ross, Selkirk; Harry M. Speechly, Pilot Mound, and William J. Harrington, Dauphin, and auditors, Drs. Robert J. Blanchard and Arthur W. Moody, Winnipeg. The 1910 meeting will be held in Winnipeg.

LONDON LETTER

(From Our Regular Correspondent)

London, June 26, 1909.

The Darwin Centenary

The centenary of the birth of Charles Darwin has been celebrated at Cambridge University in a unique manner worthy of the great biologist. Festivals have been held at this ancient seat of learning to celebrate the foundation of some great institution in the distant past or in honor of some great name which has become historic. But no such tribute has been paid to any man within so short a period of his death. Over two hundred universities, academies and learned societies at home and abroad sent delegates to the celebration. The whole biologic world was represented. Thirty institutions in the United States were represented. Darwin's old college (Christ's) was a sort of shrine to which the delegates made pilgrimages. The rooms once occupied by him were open to the visitors and an exhibition of portraits, books, specimens and other objects of interest in connection with Darwin was organized. The latest addition was a large bust in bronze, executed by an American artist and presented by the American delegates. Among the British delegates were Darwin's sons, Sir George Darwin, Mr. Francis Darwin, Major Leonard Darwin and Mr. William E. Darwin, all of whom are distinguished scientists.

A Diploma in Ophthalmology

The University of Oxford has made an innovation in medical diplomas by instituting a special diploma in ophthalmology. The advisability of this step is questioned, as it is thought that it is carrying specialism too far. The question is asked, if there is to be a special diploma in ophthalmology, why not one in laryngology, otology, dermatology, etc.?

A New Departure in the Treatment of Ophthalmia Neonatorum

At St. Paul's Hospital for Diseases of the Eye and Ear, Liverpool, a new departure has been made in the treatment of ophthalmia neonatorum which has given excellent results. As this disease is one of the most fruitful causes of blindness, the hospital authorities have decided to endeavor to prevent this dread result. A special ward is set apart for the accommodation of children suffering from the disease as well as for their mothers. It contains four beds and four cots. Thus while the children have all the advantages of hospital treatment, the evil of separating them from their mothers soon after birth is avoided. A necessary condition for the success of the scheme is the fact that midwives are required, under a penalty, immediately to notify the health officer of all cases of discharge from the eyes in new-born children. In the first year the number of cases treated numbered 75 and in the first eighteen weeks of the present year, 53.

A Crew Disabled by Beri-Beri

The Norwegian bark *Lalla Rookh* arrived in Newport after a terrible experience on a voyage from Para, Brazil. Of a crew of 13 only 2 escaped an attack of beri-beri. All went well until the vessel left French Guiana on May 8. Soon members of the crew became ill and on June 1 it was discovered that the disease was beri-beri. On June 3 the carpenter died and day by day one man after another fell ill. At one time 6 out of the 13 men were in bed. Some partially recovered. Both the captain and the mate were attacked. At one stage the captain and one man worked one watch and the mate and two men another. Upon arrival only 7 men were on duty; the remainder were removed to a hospital, where two are in serious condition.

PARIS LETTER

(From Our Regular Correspondent)

Paris, June 24, 1909.

Congress on Gynecology, Obstetrics and Pediatrics

The sixth session of the National Congress of Gynecology, Obstetrics and Pediatrics will be held at Toulouse Sept. 22-27, 1910, under the presidency of Professor Kirmisson of Paris, president of the section of pediatrics. The president of the section of gynecology is Professor Hartmann of Paris, and the president of the section of obstetrics is Professor Rouvier of Algiers. The committee of organization has chosen the following subjects for consideration: curable acute forms of pulmonary tuberculosis in infants; eczema of infants; vertebral osteomyelitis; pyloric stenosis of infants; megacolon; solid tumors of the ovary; relation of biliary lithiasis to pregnancy and labor; the pathogenesis and treatment of the pernicious vomitings of pregnancy.

Election of Dr. Schwartz to the Academy of Medicine

On June 15 the Academy of Medicine elected Dr. Schwartz, surgeon at the Cochin Hospital, a member in the section of surgical pathology in place of Dr. Chauvel, who died last December. Dr. Schwartz is about 57 years old; he is an *agrégé* of the College of Medicine and has published important works on operative medicine and external pathology.

The Practice of Radiography

The commission named by the Academy of Sciences to regulate the practice of radiography (The Journal, Jan. 16, 1909, lii, 224) has reported. It recommends that the medical or therapeutic application of radiography should be expressly forbidden to all except graduate doctors of medicine, but this restriction should not apply to laboratory researches solely for scientific purposes. The institution of a special examination in radiography at the College of Sciences is not recommended. The radiographer of the hospitals should be a physician and chosen in *concours*.

Increase of the Rate of Physicians' Fees

The medical society of the fourth ward or *arrondissement*, Paris, has recently resolved that, considering the increased cost of living for the last twenty years and the liberality with which free medical care is everywhere given, physicians' fees should also be increased and fees for visits should be raised by at least one-third over the present rates. Similar resolutions have been passed of late by other medical societies.

Health of French and German Armies Compared

A little more than six years ago an article in the *Kölnische Zeitung*, which commented unfavorably on the state of health of the French army, especially in comparison with the German army, aroused a discussion in the senate and created a great sensation throughout France. The report which Dr. Lowenthal, member of the extraparliamentary commission on depopulation, has made to the Academy of Medicine during its last session, will certainly create as deep an impression. Dr. Lowenthal has studied the condition of health of the French army for 1906, the last year for which the ministry of war has published the sanitary report and the first year in which the two-year military service law has been in force. Compared with that of 1905, which was itself unfavorable, the year 1906 shows an appreciable increase in cases of infectious diseases, such as typhoid fever, scarlet fever, cerebrospinal meningitis, scrofula, diphtheria and tuberculosis. Lowenthal believes this to be one of the effects of the new law for two-year service which enlists in the auxiliaries men unfit and useless for national defense, who merely increase the rate of military morbidity and mortality. Moreover, a constantly decreasing number of men pronounced good for active service is recorded. Lowenthal says that obsessed by a mania for numbers, we wish to maintain an army of the same size as Germany, in which the population is greater than ours and in which the number of births is increasing instead of falling off as with us. In 1908 the French army contained 582,000 men against the 572,000 of the German army, and in that same year the number of male births in Germany increased to 885,000 against 466,000 in France. Thus we maintain a superior number of standing forces, with a number of births 100 per cent. lower.

Taking account only of deaths by disease (7,578 in the French army against 3,400 in the German army), the sanitary condition of the French army is shown by a loss of 4,178 men more than in the whole of the German army. Moreover, thousands of invalids go home from the French army to die soon after their release from service; and others, incurably diseased, drag out a short and miserable existence.

As remedies for this disquieting state of affairs, Dr. Lowenthal proposes the amelioration of the general sanitary condition of the country; the doubling of the number of the barracks, which are at present overcrowded; the sanitary improvement of the present barracks; the thorough reform of our system of recruiting; a reduction of enlistments (if it were reduced to about 100,000 men, the army would gain in quality what it would lose in quantity); and the military training of young men. This last question is uppermost in official circles, as I indicated in one of my preceding letters (The Journal, Dec. 26, 1908, li, 2226).

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 16, 1909.

Robert Koch Foundation Against Tuberculosis

Under the auspices of Prof. Kitasato there has been collected in Japan for the Koch foundation $2,300 (9,500 marks), a sum which, considering the scarcity of money in Japan, is a marked evidence of the esteem which Robert Koch enjoys in that country.

Personals

Pflüger, the famous Bonn physiologist, celebrated his eightieth birthday June 7. On this occasion the city of Bonn gave him the freedom of the city.

Professor Israel, the Berlin surgeon, was injured on his face and legs three days ago by being thrown to the pavement in jumping from his carriage, while the horse was running away. Fortunately, serious consequences will not result.

Vital Statistics of Prussia

The recently published vital statistics of Prussia for 1907 furnish some interesting data. The births were reduced by 10.621 and have fallen from 36.52 born living per 1,000 inhabitants in 1901 to 33.23. The death rate is low, however, 17.96 per 1,000 inhabitants. From this it results that in spite of the reduction in the birth rate the increase in population is greater than formerly.

To Check Overproduction in Medical Literature

The German Physiologic Association at its last session adopted the motion of Professor Abderhalden that the members should not support any new journals. This action will go far toward restraining the unnecessary multiplication of journals and overproduction of medical articles. Naturally, it applies only to physiologic literature, but it is to be hoped that the example of the physiologic association will be followed by other scientific societies and the restriction extended to the entire field of medical literature.

Opposition to the Insurance Bill

The imperial bill for regulation of industrial insurance has aroused most active opposition throughout the entire medical fraternity of Germany because physicians believe that it is entirely unsuited to remove the evils in the medical service of the *Krankenkassen*, but on the other hand is calculated to restrict more than formerly the independence of physicians. The leader in this fight against the imperial insurance law is the so-called Leipsic League. How this fight is to be carried on if the bill, in spite of protest, shall be adopted by the legislature, is shown by a declaration which the directors of the league have sent to all German physicians for their signature. According to this, each physician is to declare that it is his determination if the law is passed to have nothing to do with the *Krankenkassen* in case the present conditions for medical service or any equivalent ones receive legal sanction. Among other things, the physicians would not accept the prescribed right of election to the special institutions (the arbitration committee and arbitration chamber); they would not solicit appointments directly to the medical service of the new *Krankenkassen* which are to be established, but only through the medical organizations; also they would treat the members only as private patients at special rates, and they would give them no certificates for the *Krankenkassen*, etc. The final decision in this very important matter belongs to the German Medical Association (*Deutscher Aerztetag*) which holds its meeting at Lübeck within a week.

In case of disagreement between physicians and the *Krankenkassen* provision is made for two boards of arbitration, the arbitration committee (*Schiedsausschuss*) and the chamber of arbitration (*Schiedskammer*). Both of these boards are to have medical members who are to be elected, in the case of the arbitration committee by the physicians of the district and, in case of the chamber of arbitration, by the medical council.

Pharmacology

COLLARGOL

Schering & Glatz's Reply to the Report of the Council and the Rejoinder Thereto

REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY

The letter of Schering & Glatz which is printed below is a reply to the Council's report on collargol published in The Journal, March 13, 1909. The letter having been submitted to the Council it was voted that it should be referred to the committee which prepared the collargol report with the request that it report to the Council whether or not the letter is pertinent and should be published in The Journal. The letter of Schering & Glatz having been transmitted, the committee recommend to the Council that the letter be published, also the rejoinder which appears below. This recommendation was adopted and in accordance therewith the matter is published.

W. A. Puckner, Secretary.

SCHERING AND GLATZ'S LETTER TO THE COUNCIL

Sirs:—We are glad to learn that your Chairman has, on further consideration, decided to submit to you, with our request for publication, our reply to the articles on collargol in The Journal, March 13, 1909. We shall here answer only the most important points raised by your committee.

COLLARGOL IN THE BLOOD STREAM

Kunz-Krause and Lange (*Therap. Monatsh.*, 1900, No. 10) by means of a method they specially evolved for the purpose, demonstrated collargol in the blood after 195 minutes. Beyer (*München. med. Wchnschr.*, 1902, No. 8) found traces of it in the blood after eight to ten hours. Our statement that collargol disappears from the blood within an hour did not mean that its disappearance was absolute within that time.

Hocheisen did find that collargol circulates in the blood as colloidal silver; he said (*Med. Klin.*, 1907, No. 33, case 27):

> "Autopsy showed: endometritis gangrenosa, septic degeneration of the spleen, liver and kidneys; in spleen and kidneys septic infarcts. Recent [illegible] of the aorta. Findings: on aortic valves, b [illegible] of black and grayish-black coloration, or [illegible] round structures. Microscopically these [illegible] crowded fields of streptococcus cultures [illegible] sh-black, irregularly formed scales and granules, *which were nothing else than collargol.*"

Van Waveren merely demonstrated the admitted fact that collargol is preciptated when added to a salt solution; but this is incompetent, since blood is no mere salt solution, over 7 per cent. albumen being present in the blood. Hamburger (*Arch. f. physik. Med.*, 1906, Nos. 2-3) refers to "colloid silver or collargol which has lately been recommended in bacteremias" and asks:

> "How is it possible that it remains in colloidal state in the blood stream, when the blood contains so much salt and when—as already stated—salts precipitate colloids? This is due to the presence of other colloids, namely albumen."

Hamburger says, incidentally, that collargol solutions are less stable than Bredig's silver; but this referred to the old collargol. The collargol now supplied has added to it, in the course of manufacture, a little albumen, so that its solutions are very stable.

Klimmer (*Ztschr. f. Thiermedizin*, 1900, No. 8) said:

> "If we did not add a substance to protect colloid silver from change by salt and hydrochloric acid, it would be precipitated by the salts of the blood and other animal fluids, and thereby virtually deprived of effectiveness."

His *in vitro* tests showed that gum acacia and albumen materially retard change of colloid silver by sodium chlorid, hydrochloric acid, lactic acid and trypsin. He also gave collargol *per os*, together with gum acacia and albumen, to a dog, and recovered 50 per cent. of the colloidal silver in the dog's feces.

If collargol were changed to salts in the body, it would be fatal in the enormous doses in which it is used. Cohn says:

> "When such enormous doses do not cause the least disease phenomena, this proves with certainty that colloidal silver has no toxic effect on the organism. This behavior is all the more strange because, as is well known, metallic silver and its common salts (for instance silver nitrate) are exceedingly grave poisons which even in minimal doses can destroy that organism soon after introduction."

ABSORPTION OF COLLARGOL

The committee says:

> "The fact that is repeatedly stated in articles referred to in Schering & Glatz's advertising matter, that colloidal silver, *because*

> *of its colloidal character does not pass animal membranes,* contradicts the other contention that it passes the gastric or intestinal mucous membranes in colloidal form."

There is no contradiction whatever between the two facts referred to. It is an elemental law of physiology that the mucosæ absorb *by the activity of the epithelial cells* rather than by diffusion and endosmosis. Loebl did establish the fact that collargol enemata are absorbed. He says literally (*Therap. d. Gegenw.*, April, 1904):

> "The collargol enema is almost entirely absorbed, for a cleansing enema given twelve hours later brings only a slightly blackish fluid."

Seidell (*Deutsch. med. Wchnschr.*, July 20, 1908) says the Roentgen rays show how rapidly a collargol enema is absorbed..

> "Thus in the case of a 15 year old girl, who received, after a cleansing clyster and a salt irrigation, an enema of 2 gm. collargol in 100 gm. water, Roentgenograms were taken at first hourly and then every two hours until ten hours after the enema. It was very clearly visible how the silver shadow changed. Most of the *enema is absorbed in the first hour, the rest almost entirely in the second hour.* An aqueous irrigation after eight to ten hours is returned almost clear or but slightly brownish."

NOT EXCRETED IN THE URINE

The data which we gave on this point in our October, 1907, pamphlet, were presented only for the sake of completeness, since it is of not the least practical importance or significance if collargol is excreted in the urine or not. We acknowledge that an error was made in stating that Lange found silver in the urine after administering collargol. He found it in the kidneys, not in the urine. It is also true that in Buberl's patients the presence of silver in the urines may be explained on the ground that the respective patients had pyuria. By an error the finding of collargol in the urine was ascribed to Baginsky instead of to Bamberger.

EXPERIMENTAL RESULTS IN ANIMALS

The experiments of Cohn, Brunner and Trommsdorf have been aptly criticised by Dr. Frank P. Vale, Washington, D. C., in a paper entitled "Clinical and Experimental Experience with Colloidal Silver and a Virulent Streptococcus" (read before the Medical Society of the District of Columbia; *Am. Jour. Med. Sc.*, November, 1906). He said:

> "*It will be observed that in these experiments, with the exception of two intraperitoneal inoculations,* the infective organism was thrown directly into the circulation in relatively overwhelming numbers This method of inoculation in no way simulates the manner of acquiring disease through the ordinary channels of infection, when the invading organism gains access to the circulation late in the course of the disease or frequently not at all. In experiments with the streptococcus, however, three in number, Cohn inoculated the scarified ear of a dog with a loopful of the culture, followed by an intravenous injection of colloid silver, about 0.1 gm. per kilo of animal body weight, and in each instance the control lived longer.
>
> "But in these last mentioned experiments, the silver was injected at the time of inoculation. Now the leucocytosis following the administration of colloid silver, which is at its height at the end of 24 hours, plays the important, but as yet imperfectly understood part in its action. It has been shown in efforts at prevention of *sepsis through hyperleucocytosis induced by the injection of nuclein,* pepton and other substances, that to obtain favorable results it is necessary that the inoculation be made at the height of the induced leucocytosis."

Dr. Vale inoculated twenty rabbits subcutaneously twenty-four hours after injecting colloid silver, when the average leucocytosis was 12,000, *due chiefly to an increase in polynuclear* cells. After the intraperitoneal infection the leucocytosis was of about the same intensity, but *due chiefly to an increase in* lymphocytes, as if the entire army of polynuclear phagocytes had responded to the call in the peritoneal cavity.

> "In no case was a local reaction from the subcutaneous inoculation with the streptococcus entirely prevented, but with the largest *dose of 0.5 gm. per kilo of animal weight, the inflammatory process* was transitory and in marked contrast to that in the control."

As stated in our pamphlet, animal experimentation done under conditions that closely simulate those of a clinical infection, invariably has given favorable results. This is shown by the reports of numerous veterinary surgeons.

ITS PROPHYLACTIC VALUE

There is an obvious difference between administering collargol topically for the prevention of a local sepsis in an accidental or operative wound, and its use by injection into the veins. There is, therefore, no contradiction between the claim of prophylactic action for collargol and the objection to its simultaneous administration with infective material in animal experimentation.

ITS ACTION ON LEUCOCYTES

While we have not asserted that the leucocytogenetic effect of collargol is its sole explanation of its virtues, we do not, on the other hand, believe warranted the committee's assumption that the leucocytosis is of *no significance* whatever.

ITS CATALYTIC ACTION

The committee's "*reductio ad absurdum* argument," applied to Hamburger's findings, is based on wholly incorrect premises, Hamburger says literally:

> "It is apparent from this that argentum colloidale has hastened the oxidation of the hemolytic toxins. The quantity of collargol was very small; 0.00000058 gram atoms of silver proved effective even in 2 c.c. toxic serum."

This number of gram atoms silver is equal to 0.000063 grams of silver. In a liter of toxic serum there must therefore be present, to get an effect, 0.0315 grams silver = to 0.035 collargol. Since in an intravenous injection 0.1 to 0.3 gram collargol are injected each time, Hamburger's tests demonstrate that collargol, in the quantity in which it is introduced in the blood, can hasten oxidation of bacterial toxins. The committee erroneously ascribes to Hamburger the statement that "lesser concentrations increase hemolysis." What he says is that the less collargol is added the more rapid is hemolysis.

In duplicating Hamburger's test, at the instance of the committee, Dr. Anderson has overlooked a vital step: He has failed to conduct oxygen through the solution of diphtheria toxin to which he added collargol. His bad results were therefore inevitable, but, of course, prove nothing.

Robin's work was done with electrolytically prepared colloid silver, but his results were corroborative of those obtained by other observers in demonstrating the catalytic action of colloid silver, and were therefore perfectly applicable to collargol, which is nothing else than colloid silver.

H. Fueth (University Gynecology Clinic at Leipsic) said in the *Centralbl. f. Gynæcologie*, September, 1906):

> "Colloid silver acts as a catalysator, i. e., it hastens the decomposition of H_2O_2 under formation of nascent oxygen, without itself undergoing any change."

THE CLINICAL EVIDENCE

The committee concedes that the clinical evidence is extensive, but implies that it is not competent. In disproof of this we call attention to the standing of some of the physicians who have written favorably about collargol: Professor Roswell Park, Buffalo, in "Principles and Practice of Modern Surgery," 1907. Prof. B. K. Rachford, Cincinnati, in *Am. Jour. Med. Sc.*, January, 1909. Prof. F. Forchheimer, Cincinnati, in "Prophylaxis and Treatment of Internal Diseases," 1908. Prof. Norbert Ortner, Vienna, in "Treatment of Internal Diseases," 1908. Professor Plehn, in *Deutsch. med. Wchnschr.*, Dec. 24, 1908. Prof. E. C. Dudley, in "Principles and Practice of Gynecology," 1908. Dr. F. Kreissl, in "Urogenital Therapeutics," 1908. Dr. L. S. Pilcher, in "*Ann. Surg.*," January, 1907.

Surely this is competent authority. We do not understand that the committee impugns the competency of these distinguished members of the profession. The only question which remains, therefore, is to see if our claims are warranted by the tenor of this the clinical testimony. Our claims are:

1. Used prophylactically, collargol is an almost unfailing safeguard against sepsis from accidental or operative wounds or childbirth.
2. Administered early it usually arrests incipient medical or surgical infections or renders their course briefer and milder.
3. Even when employed only as a last resort, it sometimes achieves brilliant recoveries in desperate, apparently hopeless cases.

The third claim being the one most open to scepticism, its substantiation will justify the others. We refer to the publication from Bumm's clinic, which shows a clear reduction of the puerperal mortality under collargol. One of the members of the committee, Prof. Solis Cohen, has seen "two recoveries from malignant endocarditis and numerous recoveries from other grave infections" as the result of energetic employment of it intravenously and per rectum. Dr. George T. Harrien says: "I have saved cases with it that I could not have saved without it. The collargol literature, so far as we know, comprises close to 500 reports. Now, assuming that 30 of these are unfavorable, you are confronted with the conclusions of 470 observers. There is thus an overwhelming preponderance of favorable evidence. And absolute unanimity exists with hardly any remedy of the materia medica.

OUR PRESENTATION OF THE TESTIMONY

The committee alleges that we quoted from an early edition of Tillmann's "Allegemeine Chirurgie," because he there expressed himself more favorably than he did in later editions. Tillmann said:

IN HIS 7TH (1889) EDITION:	IN HIS 10TH (1907) EDITION:
Mehrfach sah ich ueberraschend guenstige Wirkungen, in anderen Faellen war kein Erfolg zu konstantieren.	Das Verfahren hat sich mehrfach beim Menschen bewaehrt, in anderen Faellen war es erfolglos.
(Frequently I saw astonishingly favorable effects, in other cases no success was determinable.)	(The method has frequently proved successful in man, in other cases it was without result.)

If any difference is appreciable, it is rather in favor of collargol, since in the later edition Tillmann generalizes the favorable conclusion which he originally based only on his own observations. Moreover he devotes more space in the later edition to collargol, citing Netter, von Baracz and others. We certainly would have quoted the 1907 edition in preference to the 1899, if we had been aware of its existence, which we were not. We can not search the medical archives of the world from year to year in order to make sure that an author has not published later writings containing slight alterations of his original phraseology. The library of the New York Academy of Medicine does not possess the eighth and ninth editions of Tillmann's book, and we do not even know if the tenth edition (1907) was obtainable at the time our October, 1907, pamphlet was compiled.

The committee points out that in reproducing Hocheisen's favorable report we left out a part of the introduction, in which he said that collargol was used by him in Landerer's clinic without his seeing any result that could not have been secured quite as well with the customary surgical or general treatment. But it was necessary to omit practically the entire introduction, including a great deal of favorable matter, as we had to sacrifice everything excepting the essence of his report in order to make a 3,000-word abstract of the 15,000-word original.

This procedure must be followed in compiling literature. If we reproduced the publication in extenso the printer's bill would be many times as great, and the physician would be quite discouraged at the very outset by the task of wading through pages of unimportant prefatory remarks and explanations, repetitions, literature reviews, etc. We are convinced of the value of collargol—else we would not introduce it—and we present the material evidence in a manner which renders it available to the busy physician. Since it is impossible to acquaint the physician with all of it, since we can in fact acquaint him with only a small part or with none at all, we must use discretion in selecting that for which we request his consideration. We certainly do not thrust before him material which we consider valueless, but chose only what we consider of real importance.

Therefore, we are obliged to omit many publications, favorable as well as adverse, which seem relatively less important. Thus the committee finds fault with us for not reproducing the report of Baginsky. But he used unguentum Credé in "scarlatinal affections of the gravest form" and "the inunctions were not instituted at the beginning of the disease but only after several days." Now we do not claim that unguentum Credé cures scarlatinal affections of the gravest form in which it is used belatedly; in our October, 1907, pamphlet, we say (p. 7):

> "Unguentum Credé is inuncted as a prophylactic of puerperal sepsis and in the treatment of *mild* general septicotoxic processes."

In "severe and desperate infections" we recommend collargol intravenously. Nor do we claim that even collargol intravenously cures every case. The claim is that it sometimes cures desperate cases.

Therefore, what object could have been served by reproducing Baginsky's report. We warn against the very thing which he has done.

Referring to Jeannin and Bonnaire's paper, it is not correct that "there is no evidence that the patients had actual septicemia or pyemia." These authors say:

> "Collargol treatment was instituted by us only in severe, recalcitrant and general infections, or such as tended to become so. We never used it in merely benign or local infections. . . . The intravenous injections were made only after the failure of the ordinary treatment such as intrauterine irrigations, digitalis, curettage and lavage. Our statistics should therefore be compared only with the most severe form—parenchymatous metritis, septicemia, pyemia."

They conclude:

> "Collargol is a method frequently effective against generalized puerperal infections or those tending to become so."

The committee thinks we intentionally withheld Osterloh's report in the *Deutsch. med. Wchnschr.*, 1902, No. 21, wherein the author expresses himself with some reserve regarding collargol. But we also did not reproduce Osterloh's later and much more favorable report (Jahresber. d. Gesellsch. f. Naturu. Heilkunde, 1904). The following is a literal translation of an abstract thereof in the *Centralbl. f. Gynakologie*, 1906, No. 15:

> "After an exhaustive compilation of the casuistic literature the author relates a case which he himself observed. This consisted of a puerperal fever in a primipara (an insane subject), after manual removal of the placenta. Thrombosed vessels in both parametria, daily chills. Treatment consisted of four-intravenous injections of 7 to 8 c.c. of a 1 per cent. collargol solution, in bi-daily intervals, and of 12 enemata with 50 c.c. of 1 per cent solution in average intervals of 2 days. After 5 days no more chills. The effect of collargol was favorable on cessation of chills and in improvement of the general condition. The author considers Collargol treatment especially indicated in general puerperal sepsis without localization."

Döderlein also expressed himself distinctly favorable in the *Ztschr. f. aerztl. Fortbildung*, 1907.

The committee says that we mistranslated one of Hocheisen's sentences thus: "Collargol is an invaluable aid in the treatment of puerperal sepsis," and says that the sentence should read: "Collargol is an aid in the treatment of puerperal sepsis." Hocheisen (p. 893 of the Med. Klinik) uses the word "wertvolles," which, however, would have been better rendered as "valuable."

The committee objects to our quotation from Schlossmann's paper that "he advised 1 per cent. collargol solution in sweetened milk when an intestinal antiseptic is needed." The committee seeks to draw from his paper the inference that he is not really in favor of intestinal antiseptics, but recommends collargol as a placebo to those who are foolish enough to believe in intestinal antisepsis. This assumption is not warranted, as shown by the ending of Schlossmann's paper:

> "*For infectious diseases of the mucous membranes*, above all for ophthalmoblennorrhea neonatorum and cholecystitis, there is no other remedy (than collargol) which so intensively and rapidly leads the disease process to cure."

The committee asserts that Rittershaus reported by-effects from collargol. Rittershaus's by-effects (infiltration, embolism) were, however, not due to collargol, but to his wrong technic in administering the injections; he allowed the solution to escape into the tissues, instead of injecting into the vein, and permitted air to get into the syringe.

The committee's majority report charges that we sought to give the impression that all the reports cited in the "Bibliography" (October, 1907, pamphlet) are favorable. This is disproved by the fact that we distinctly say that Ernst Cohn's report was unfavorable and give immediately after his name the number referring to his report in the bibliography.

COMMITTEE'S CRITICISMS OF AUTHORS

The committee criticises the report of Harrison, Witthauer, Afanassjeff, Wenckebach and Netter. We need hardly take it upon ourselves to defend these authors, and merely call attention to the fact that one of Wenckebach's sentences is misinterpreted by the committee. Witthauer's observations are confirmed by those of Kiebold, Plehn and others. Netter's total experience consists of many hundred cases—not of 73 cases, as the committee erroneously states. *Vide* our bibliography in the October, 1907, pamphlet.

CONCLUSIONS

We are quite ready to admit the occurrence of mistakes in our literature; but these mistakes were all trifling, unintentional, without the least importance. Errors are prone to creep into printed matter, despite every possible care, and all that can be done is to guard against their repetition when we learn of them. The committee's report contains quite a number of very important errors. We therefore regret the fact that the report was arrived at by a method of excluding defence. Having shown the unsoundness of its premises, we believe that it will collapse under the weight of its error and unjustness.

Respectfully,

SCHERING & GLATZ.

THE COMMITTEE'S REJOINDER TO SCHERING AND GLATZ'S LETTER

In reply to the Council's inquiry as to our recommendation concerning the response of Schering & Glatz to our report on Collargol, we would say that we recommend that it be published. We would state, however, that after reading it very carefully, we can not find therein any reason for altering our previous conclusions; nor can we find any evidence that we have dealt unjustly with Schering & Glatz, or misinterpreted or otherwise misused any of the testimony that they submitted in support of their claims.

On the contrary, we find in their reply direct admission of a number of false statements that we pointed out: and further they tacitly admit numerous other objectionable things that we emphasized, such as the exaggerated presentation of authors' views, the suppression of portions of sentences and of portions of reports, and the like—all of which they evade answering, except instances that we shall mention. Indeed, they openly state that they choose for their advertising pamphlets only the matter that they "consider of real importance"—a statement that is much illuminated by the fact that the matter left out in the instance that they are discussing, as well as in various other instances, was exceedingly damaging to their claims concerning collargol.

We find, further, that in their reply they make use of the same methods that we condemned most severely in our report. Carefully comparing our original report and Schering & Glatz's reply will show that they have misquoted what we said as to Bonnaire and Jeannin and Netter in a minor way, but in a manner that appears to be intended to discredit our report. Further, in their reply—and especially in a pamphlet recently sent broadcast throughout the country—they present a *most excellent illustration of a practice that we condemned with especial severity;* namely, the mutilation of statements of authors through subtraction, addition, and rearrangement of words and sentences in such a manner as to make the statements appear stronger than they were, giving *them in quotation marks, as if they had been taken* without alteration from the authors. It is somewhat remarkable that they should have employed this practice in attempting to discredit the one instance in which they now claim that we falsely accused them of having done exactly this thing. This, again, seems to be clearly done in the belief that the precise facts will not be looked up. The particulars of this matter are as follows:

Schering & Glatz stated that we were wrong in charging that they had inserted the word "invaluable" in a sentence that they quoted from Hocheisen, and insisted that he used the word "werthvolles," which means "valuable." It would be difficult to understand their reply, were it not for the somewhat more extended reply that they have scattered through the mails. The latter clears up the legerdemain. The sentence in the original pamphlet, and the one that we criticised in our report, was: "Collargolum is an invaluable aid in suitable cases." The sentence they now use is: "Collargol is an invaluable aid in cases of puerperal sepsis." This latter sentence is made up as follows: Near the top of the page of Hocheisen's paper from which they quote occurs the following statement: "Hence, Collargol is no specific, but is an aid in suitable cases." Near the bottom of the same page, after having stated a variety of types of cases in which it is not suitable, Hocheisen says: "Used according to these principles, Collargol injections constitute a valuable measure in cases of puerperal sepsis." Hence, it becomes quite clear that the sentence with which we are now presented in running form and in quotation marks is made up, in its first part, from the top of the page, and in its last part, from the bottom of the page, the word "valuable" having been changed into the word "invaluable," and transposed in position in the attempt to justify what we originally criticized.

We were really very gentle with this point in the original report. Any one who cares to read the extract from Hocheisen in Pamphlet C and compare it precisely with the original will see that Schering & Glatz actually, in Pamphlet C, have not only done what we said, but have eliminated a number of things that Hocheisen said, though the extract is given in running form and in quotation marks: and the things that are eliminated are almost all such as to guard and restrict his statements concerning the use of the substance.

Our original criticism concerning this matter was precisely correct. As to their other statements concerning the clinical evidence, we can not go extensively into this matter. We feel that it is quite sufficient to refer any one back to the details of the original report, merely directing them to note carefully in the reply as contrasted with our report the interpretation of authors in a way that appears entirely unjustifiable and particularly the evasions of the main points at issue in such matters as the quotation from Tillmanns. As to such new evidence as that referred to Osterloh, we would *note here, again, that their quotation is from an unauthorized abstract;* and that in the entire paper by Osterloh, which they do not seem to have consulted, but which we have, the conclusions are more cautious and guarded than those that are presented in this abstract.

The most important portions of their reply, since they relate in part to actual work, are those concerning the pharmacological evidence As to the form in which Collargol circulates, we referred to precisely the words which they now quote from Hocheisen, when we said that he had offered no evidence. In regard to this and the other evidence that is offered concerning this point, we would say that it is perfectly palpable to any one that none of this is evidence as to the condition in which Collargol is found in the body. The most recent testimony concerning this point (and, indeed, so far as we know, the only testimony that has some appearance of soundness) is that found in the recent study by Luzzato, who agrees with the statement of Schering & Glatz that Collargol rapidly disappears from the blood-stream and is quickly found in the organs; but states that it is found there chiefly AS METALLIC SILVER, AND NOT AS COLLARGOL. This paper had escaped our attention when we made the report, and it seems still to have escaped the attention of Schering & Glatz.

As to absorption, the work of Loebl and Seidel, to which Schering & Glatz refer, we were familiar with. It is scarcely necessary to say that it is ridiculous to attempt to reach any conclusion regarding scientific matters by such gross methods. In regard to this point, also, Luzzato has some clarifying information. He states that, given per os or by enema, Collargol is either not absorbed at all or is absorbed in extremely slight amount; and he says that this is due to the fact that it is readily precipitated out as metallic silver.

As to the experimental results in infected animals, Cohn, Brunner, and Trommsdorff have, as we noted in the report, given Collargol just before, coincidently with, immediately after, and many hours after the infection: and Cohn even let some of his animals become actually ill with streptococcus skin infections before using the substance. All the results, as we stated in our report, were negative. In this section of the reply, it plainly is admitted that all of these experiments were unfavorable; but now, in criticising them, Schering & Glatz shift their ground. In the original pamphlet, Cohn was severely condemned because he gave his injections of Collargol before the infective material; and it was stated that in such a case the leukocytes would be too busy taking care of the silver to be able to attack the infection. In the new evidence now presented, we are told that the injection should be given twenty-four hours before the infection is set up, when the leukocytosis is at its height. It appears quite true that this is the only chance for success that is left; but, in the first place, these two statements are the opposite of each other and, in the second place, such results would not appear very valuable practically, because it is somewhat difficult to use a treatment before the patient gets sick. In the third place, the practice now recommended is obviously prophylaxis; and yet, in the next section we are told that the committee's criticisms of the claims that Schering & Glatz make for Collargol as a prophylactic were very foolish, because there is a difference between giving it topically and giving it by injection—all of which can only be interpreted to mean that it works as a prophylactic when used topically, but not when given intravenously. Clearly, also, the reply at this point states, through quotation, that the important part of the action of Collargol is the leukocytosis which it sets up; and it is directly compared to nuclein and other substances that produce leukocytosis. This must mean that the supposed direct bactericidal, catalytic, and other effects described are unimportant; for such direct effects could not be dependent on a leukocytosis.

On the other hand, in the next section Schering & Glatz state that the leukocytosis is not the sole explanation of its action; and, in reply to our perfectly correct statement that the leukocytosis can not be considered to be of any definite significance in regard to its effect on a general infection, they merely say mildly that they do not agree with this. We would say, Mr. Chairman, that we consider it a little ridiculous for serious-minded persons to play this game of hide-and-seek any further. We have now been told by Schering & Glatz:

1. Collargol must not be given before the infective material, or the resistance of the organism will be lowered by obstructing the activities of the leukocytes.
2. It must be given before the infection.
3. One must, on the other hand, wait until the animal is actually sick.
4. One must, however, not give the animal a very severe infection.
5. The most important effect is the leukocytosis following its use.
6. The leukocytosis is only a fraction of its effects.
7. It has "direct bactericide energy." (Cover of Pamphlet B.)
8. "We do not claim that Collargol kills bacteria, but that it hinders their growth."
9. It is a prophylactic, when injected.
10. It is not a prophylactic, when injected.
11. It acts like nuclein.
12. On the contrary, it has some mysterious activity, all its own, etc., etc.

Let us again point out, on leaving this section, that Cohn's work is once more misrepresented, as will be seen by comparing the statements as given in the reply with the correct statements in our report.

As to their comment on our interpretation of Hamburger's work, we would say that if these new figures are given correctly, we have done Hamburger some injustice. We can not, however, see that we have done the slightest injustice to Schering & Glatz, for, as we stated in the report, we took the figures that we used and the statement that lesser concentrations increase hemolysis, from their own pamphlet (the one marked B by you), and not from Hamburger's own articles, as the latter were not available to us. The figures and statements that we used are precisely correct as given in the Schering & Glatz pamphlet. Perhaps they will now argue that, after our other criticisms of their pamphlets, it was very unwise of us to have put faith in any figures in them. But the actual figures are not the point at issue, as we noted in our report, and since we have no contention with Hamburger, but only with Schering & Glatz's use of his work we do not need to refer to his original articles.

Every one knows that colloidal silver and various other colloidal substances, as well as a host of other substances, may act as catalysers *in vitro*. The matter for consideration is not the amount necessary to produce this effect *in vitro*, but whether any such effect can be shown to occur in the organism. The assumption that it does occur is entirely unjustified, unless there be evidence in favor of it, and particularly when there is evidence against it. Robin's studies of metabolism, we have already discussed. We would further say that his results might quite as readily be called toxic as catalytic; and in our present knowledge of things, they might more suitably be called toxic. The only work with which we are familiar that bears directly on this point and that was carried out under conditions clearly simulating those met with in the diseased organism are the experiments of Dr. Anderson, in which he injected both diphtheria toxin and Collargol into the circulation of living animals. The Collargol caused no lessening of the toxicity of the diphtheria toxin. These experiments Schering & Glatz skilfully avoid mentioning, and merely insist scornfully that Dr. Anderson's other experiments (*in vitro*) were faulty, in that he did not conduct a stream of oxygen through his mixture of toxin—and Collargol—solutions. We may leave it to the judgment of others whether such a procedure would really make such experiments more convincing or less so, as an imitation of the conditions that exist in the living organisms; but whatever may be said about this point, Schering & Glatz can scarcely demand that in his experiments *in vivo* Dr. Anderson should have conducted a stream of oxygen into the hearts of his guinea-pigs when he injected diphtheria-toxin and Collargol.

The truth of this whole matter seems to be that there is no direct evidence in favor of this interesting hypothesis of Hamburger, while there is some evidence against it; and there is no more reason for building sweeping therapeutic assertions on it than there would be for saying that because colloidal platinum will, *in vitro*, act catalytically in hastening the transformation of alcohol into acetic acid, we might optimistically treat acute alcoholic intoxication by the use of colloidal platinum. If we could transform the alcohol into acetic acid, it would, of course, be easy then to use alkalies to neutralize the acetic acid, and thus make the alcohol wholly innocuous.

One further point: Schering & Glatz charge that we said quite improperly that Rittershaus and others have produced dangerous symptoms with Collargol (signs of embolism of the lungs, etc.), and they state that these results were all due to faulty technic. This is hardly worth while replying to, for it is manifestly merely an entirely unjustified interpretation of the bad results we referred to; but in regard to untoward effects of drugs, experimental results in animals have illuminated many questions, and seemed to have illuminated this one somewhat brilliantly. The animal to which Schering & Glatz refer as having been studied chemically by Lange died three hours and a quarter after an injection of Collargol, nothing else having been done to it, so far as the protocol shows. Furthermore, Luzzato states that when injected into the veins Collargol produces lesions of the lungs "with extreme readiness"; and Foa and Agazzotti who also have recently made an extensive study of the effects of colloidal silver preparations, say that Collargol in small doses produces fever, phosphaturia and slight albuminuria, while large doses produce marked phosphaturia and a very severe nephritis with casts and hematuria, which, in a short time, leads to the death of the animal. In order to avoid misunderstanding we would say that the two articles last referred to we have seen only in abstract, but the abstracts were not the wholly unauthorized kind that we criticized Schering & Glatz for using, but were written by the authors themselves. In consequence of these and the other very disquieting reports we have referred to we must emphasize our previous statement that the claim that Collargol is harmless when administered in any manner is far from justified.

Usefulness of a Card Index of Nostrums

Every physician can testify from personal observation to the harmfulness of "patent medicines;" harmful either because the drugs they contain are contraindicated, because they lead to the formation of a habit, or more often because the person taking them is deprived of proper treatment, perhaps, until it is too late. When, therefore, a physician is questioned in regard to the value of the "patent medicine," it is not difficult for him to speak in general terms of its harmfulness or worthlessness; when, however, he wishes to educate his patients in regard to the viciousness of self-drugging, it is a material aid for him to have a specific knowledge of the nostrum in question.

It is for this reason that The Journal has published, from time to time, analyses of "patent medicines," as for instance, those of "kidney cures," "liver medicines," "obesity cures," etc., and will continue to do so, probably to a greater extent in the future than in the past. But the publication of such matter will be of value for the purpose for which it is intended, only to the extent to which physicians use it. The main object of this paragraph is to suggest that for ready reference, a card index record be kept of all these articles. This will be much more available for ready reference than The Journal index. Such an index is easily kept up and we feel sure will prove handy in emergencies—that is, when one wants some definite knowledge in regard to a particular preparation.

On the contrary, we find in their reply direct admission of a number of false statements that we pointed out: and further they tacitly admit numerous other objectionable things that we emphasized, such as the exaggerated presentation of authors' views, the suppression of portions of sentences and of portions of reports, and the like--all of which they evade answering, except instances that we shall mention. Indeed, they openly state that they choose for their advertising pamphlets only the matter that they "consider of real importance"--a statement that is much illuminated by the fact that the matter left out in the instance that they are discussing, as well as in various other instances, was exceedingly damaging to their claims concerning collargol.

We find, further, that in their reply they make use of the same methods that we condemned most severely in our report. Carefully comparing our original report and Schering & Glatz's reply will show that they have misquoted what we said as to Bonnaire and Jeannin and Netter in a minor way, but in a manner that appears to be intended to discredit our report. Further, in their reply--and especially in a pamphlet recently sent broadcast throughout the country--they present a most excellent illustration of a practice that we condemned with especial severity; namely, the mutilation of statements of authors through subtraction, addition, and rearrangement of words and sentences in such a manner as to make the statements appear stronger than they were, giving them in quotation marks, as if they had been taken without alteration from the authors. It is somewhat remarkable that they should have employed this practice in attempting to discredit the one instance in which they now claim that we falsely accused them of having done exactly this thing. This, again, seems to be clearly done in the belief that the precise facts will not be looked up. The particulars of this matter are as follows:

Schering & Glatz stated that we were wrong in charging that they had inserted the word "invaluable" in a sentence that they quoted from Hocheisen, and insisted that he used the word "werthvolles," which means "valuable." It would be difficult to understand their reply, were it not for the somewhat more extended reply that they have scattered through the mails. The latter clears up the legerdemain. The sentence in the original pamphlet, and the one that we criticised in our report, was: "Collargolum is an invaluable aid in suitable cases." The sentence they now use is: "Collargol is an invaluable aid in cases of puerperal sepsis." This latter sentence is made up as follows: Near the top of the page of Hocheisen's paper from which they quote occurs the following statement: "Hence, Collargol is no specific, but is an aid in suitable cases." Near the bottom of the same page, after having stated a variety of types of cases in which it is not suitable, Hocheisen says: "Used according to these principles, Collargol injections constitute a valuable measure in cases of puerperal sepsis." Hence, it becomes quite clear that the sentence with which we are now presented in running form and in quotation marks is made up, in its first part, from the top of the page, and in its last part, from the bottom of the page, the word "valuable" having been changed into the word "invaluable," and *transposed* in position in the attempt to justify what we originally criticized.

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Our original criticism concerning this matter was precisely correct. As to their other statements concerning the clinical evidence, we can not go extensively into this matter. We feel that it is quite sufficient to refer any one back to the details of the original report, merely directing them to note carefully in the reply as contrasted with our report the interpretation of authors in a way that appears entirely unjustifiable and particularly the evasions of the main points at issue in such matters as the quotation from Tillmanns. As to such new evidence as that referred to Osterloh, we would note here, again, that their quotation is from an unauthorized abstract; and that in the entire paper by Osterloh, which they do not seem to have consulted, but which we have, the conclusions are more cautious and guarded than those that are presented in this abstract.

The most important portions of their reply, since they relate in part to actual work, are those concerning the pharmacological evidence. As to the form in which Collargol circulates, we referred to precisely the words which they now quote from Hocheisen, when we said that he had offered no evidence. In regard to this and the other evidence that is offered concerning this point, we would say that it is perfectly palpable to any one that none of this is evidence as to the condition in which Collargol is found in the body. The most recent testimony concerning this point (and, indeed, so far as we know, the only testimony that has some appearance of soundness) is that found in the recent study by Luzzato, who agrees with the statement of Schering & Glatz that Collargol rapidly disappears from the blood-stream and is quickly found in the organs; but states that it is found there chiefly AS METALLIC SILVER, AND NOT AS COLLARGOL. This paper had escaped our attention when we made the report, and it seems still to have escaped the attention of Schering & Glatz.

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On the other hand, in the next section Schering & Glatz state that the leukocytosis is not the sole explanation of its action; and, in reply to our perfectly correct statement that the leukocytosis can not be considered to be of any definite significance in regard to its effect on a general infection, they merely say mildly that they do not agree with this. We would say, Mr. Chairman, that we consider it a little ridiculous for serious-minded persons to play this game of hide-and-seek any further. We have now been told by Schering & Glatz:

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12. On the contrary, it has some mysterious activity, all its own, etc., etc.

Let us again point out, on leaving this section, that Cohn's work is once more misrepresented, as will be seen by comparing the statements as given in the reply with the correct statements in our report.

As to their comment on our interpretation of Hamburger's work, we would say that if these new figures are given correctly, we have done Hamburger some injustice. We can not, however, see that we have done the slightest injustice to Schering & Glatz, for, as we stated in the report, we took the figures that we used and the statement that lesser concentrations increase hemolysis, from their own pamphlet (the one marked B by you), and not from Hamburger's own articles, as the latter were not available to us. The figures and statements that we used are precisely correct as given in the Schering & Glatz pamphlet. Perhaps they will now argue that, after our other criticisms of their pamphlets, it was very unwise of us to have put faith in any figures in them. But the actual figures are not the point at issue, as we noted in our report, and since we have no contention with Hamburger, but only with Schering & Glatz's use of his work we do not need to refer to his original articles.

Every one knows that colloidal silver and various other colloidal substances, as well as a host of other substances, may act as catalysers *in vitro*. The matter for consideration is not the amount necessary to produce this effect *in vitro*, but whether any such effect can be shown to occur in the organism. The assumption that it does occur is entirely unjustified, unless there be evidence in favor of it, and particularly when there is evidence against it. Robin's studies of metabolism, we have already discussed. We would further say that his results might quite as readily be called toxic as catalytic; and in our present knowledge of things, they might more suitably be called toxic. The only work with which we are familiar that bears directly on this point and that was carried out under conditions clearly simulating those met with in the diseased organism are the experiments of Dr. Anderson, in which he injected both diphtheria toxin and Collargol into the circulation of living animals. The Collargol caused no lessening of the toxicity of the diphtheria toxin. These experiments Schering & Glatz skilfully avoid mentioning, and merely insist scornfully that Dr. Anderson's other experiments (*in vitro*) were faulty, in that he did not conduct a stream of oxygen through his mixture of toxin—and Collargol—solutions. We may leave it to the judgment of others whether such a procedure would really make such experiments more convincing or less so, as an imitation of the conditions that exist in the living organisms; but whatever may be said about this point, Schering & Glatz can scarcely demand that in his experiments *in vivo* Dr. Anderson should have conducted a stream of oxygen into the hearts of his guinea-pigs when he injected diphtheria-toxin and Collargol.

The truth of this whole matter seems to be that there is no direct evidence in favor of this interesting hypothesis of Hamburger, while there is some evidence against it; and there is no more reason for building sweeping therapeutic assertions on it than there would be for saying that because colloidal platinum will, *in vitro*, act catalytically in hastening the transformation of alcohol into acetic acid, we might optimistically treat acute alcoholic intoxication by the use of colloidal platinum. If we could transform the alcohol into acetic acid, it would, of course, be easy then to use alkalies to neutralize the acetic acid, and thus make the alcohol wholly innocuous.

One further point: Schering & Glatz charge that we said quite improperly that Rittershaus and others have produced dangerous symptoms with Collargol (signs of embolism of the lungs, etc.), and they state that these results were all due to faulty technic. This is hardly worth while replying to, for it is manifestly merely an entirely unjustified interpretation of the bad results we referred to; but in regard to untoward effects of drugs, experimental results in animals have illuminated many questions, and seemed to have illuminated this one somewhat brilliantly. The animal to which Schering & Glatz refer as having been studied chemically by Lange died three hours and a quarter after an injection of Collargol, nothing else having been done to it, so far as the protocol shows. Furthermore, Luzzato states that when injected into the veins Collargol produces lesions of the lungs "with extreme readiness"; and Foa and Agazzotti who also have recently made an extensive study of the effects of colloidal silver preparations, say that Collargol in small doses produces fever, phosphaturia and slight albuminuria, while large doses produce marked phosphaturia and a very severe nephritis with casts and hematuria, which, in a short time, leads to the death of the animal. In order to avoid misunderstanding we would say that the two articles last referred to we have seen only in abstract, but the abstracts were not the wholly unauthorized kind that we criticized Schering & Glatz for using, but were written by the authors themselves. In consequence of these and the other very disquieting reports we have referred to we must emphasize our previous statement that the claim that Collargol is harmless when administered in any manner is far from justified.

Usefulness of a Card Index of Nostrums

Every physician can testify from personal observation to the harmfulness of "patent medicines;" harmful either because the drugs they contain are contraindicated, because they lead to the formation of a habit, or more often because the person taking them is deprived of proper treatment, perhaps, until it is too late. When, therefore, a physician is questioned in regard to the value of the "patent medicine," it is not difficult for him to speak in general terms of its harmfulness or worthlessness; when, however, he wishes to educate his patients in regard to the viciousness of self-drugging, it is a material aid for him to have a specific knowledge of the nostrum in question.

It is for this reason that The Journal has published, from time to time, analyses of "patent medicines," as for instance, those of "kidney cures," "liver medicines," "obesity cures," etc., and will continue to do so, probably to a greater extent in the future than in the past. But the publication of such matter will be of value for the purpose for which it is intended, only to the extent to which physicians use it. The main object of this paragraph is to suggest that for ready reference, a card index record be kept of all these articles. This will be much more available for ready reference than The Journal index. Such an index is easily kept up and we feel sure will prove handy in emergencies—that is, when one wants some definite knowledge in regard to a particular preparation.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HOP VINES TO EXCLUDE FLIES

A writer in the *Christian Advocate* of New York suggests that hop vines may be objectionable to flies. Living in a town in Bulgaria, a land where filth and rubbish abound as almost nowhere in America, this writer considers that her house may be considered a fair testing place for the efficacy of hop vines in keeping out flies. The vines run over the porch and over the windows. There are no screens but no flies enter the kitchen no matter what cooking is done there. When the vines were laid on the ground so that the house could be whitewashed, the flies swarmed into the kitchen; on replacing the vines, freedom from flies was again enjoyed. Although we depend so much on screens in the United States, this information may interest many because screens can seldom be perfectly effective. It may be a question whether the flies are actually kept out of the room because the hop vines are objectionable to the insects or because the room is darkened by the vines over the windows. Any room that is kept fairly dark has no attraction for flies. THE JOURNAL will be glad to know if others can answer this point.

DETECTION OF TUBERCLE BACILLI IN THE BLOOD

To the Editor:—Dr. Keen, in his article in THE JOURNAL, June 26, 1909, refers to Rosenberger's method of detecting the tubercle bacillus in the blood Where may I get information regarding this diagnostic method? J. W. GRAHAM, M.D., Highland, Kan.

ANSWER.—Rosenberger's article is published in the *American Journal of the Medical Sciences*, February, 1909. He withdraws 5 c.c. of blood, mixes it with an equal quantity of a 2 per cent. solution of sodium citrate in normal [physiologic?] salt solution, and places it in the refrigerator for twenty-four hours. The sediment is then transferred to a slide with a pipette, dried and placed in distilled water until complete laking of the blood occurs. The delicate film remaining is dried, fixed and stained by the usual technic for tubercle bacilli. Rosenberger claims to have found bacilli in the blood in every one of 125 cases examined. The value of this method as a diagnostic procedure has not yet been determined.

CLIMATE FOR RHEUMATISM

To the Editor:—Where is to be found a good climate for a rheumatic child, one that would permit of out-of-door life during the winter months? C. R. J.

ANSWER.—One would naturally choose a warm, equable, sunshiny region, not excessively warm nor humid and not too high above the sea level, on account of the added work put on the heart. Southern California or the winter resorts of Georgia, such as Thomasville or Augusta, or even Southern Arizona or San Antonio, Texas, would be especially suitable for such cases.

Origin of Tetanus and Action of Tetanus Toxin.—No. 520 of the *Sammlung klinischer Vorträge* is devoted to a study of tetanus by C. Pochhammer. He says the tetanus toxin is deposited in and bound by the myelin in the medullary sheath. The toxin may be retained in the nerve tracts for years, which is probably the explanation of the connection between syphilis and tabes; infections especially accompanied by nervous symptoms generally leave the patient immune to renewed infection. His research confirms the fact that antitoxins or antibodies are not absolutely specific, but merely induce general processes of regeneration, and that serotherapy in established tetanus is generally useless or actually harmful, taxing the organism, even if it does not have a direct toxic action. Tetanus antitoxin should thus be dropped from the list of curative serums. When the first symptoms of tetanus develop it is then too late for serotherapy. Even when tetanus toxin was injected directly into the animals there was always a period of incubation before symptoms developed, and this interval could never be shortened to less than eight hours, no matter how large the dose. He explains this by the taking up and binding of the toxin in the finest peripheral terminals; owing to their ramifications increasing the surface area, and their abundant circulation, they are able to take up the toxin much more readily and extensively than the main trunks of the nerves. Only when the toxin has finally worked its way to the mixed peripheral nerves and nerve trunks do symptoms develop. For this same reason the shorter, small, mixed nerve branches are more readily affected by the toxin than the larger trunks, a fact which explains the localization of the symptoms in muscles of this kind, such as the muscles in the throat, neck and back, innervated by short, small mixed nerves. The whole syndrome of tetanus is thus robbed of its mystery by this research, he declares, especially by the discovery that there was no cramp in a limb after resection of a considerable stretch of its nerves.

Correspondence

Digitalis and Its Standardization

JUNE 16, 1909.

To the Editor:—The article in THE JOURNAL, June 12, on the above subject, is deserving of more than passing attention. Probably no drug is more extensively prescribed or enthusiastically lauded in the treatment of certain heart lesions (senile weaknesses with dilatation, etc.) than this one; and yet there is a constantly increasing multitude of us who have come to believe it to be absolutely worthless if not contraindicated in these conditions. Who is right?

If digitalis will do all, or even a part of what its admirers claim for it, then we have no efficient substitute therefor, and we "need it in our business"—at least I do, for I have, and have had for many years, constantly under observation many cases in which its administration would be indicated. Can it be that our lack of faith in this drug proceeds from our having used unreliable and inert preparations? If so, I for one am ready to "start over." It has, of course, been long recognized that an infusion of the leaves was the most reliable and efficacious method of administration; but where and of whom are reliable leaves to be obtained, and how is their efficacy to be maintained? I presume that there are good, effective digitalis leaves whose qualities are capable of standardization. My principal object in writing this is to enquire as to the possibility of making a pill containing say three-fourths or one grain of such leaves—such a pill as is advocated by Hirsch of Gottingen. Is it within the province of pharmacy to construct such a pill that will retain its efficacy for a reasonable length of time? If so, I am sure there is a market for it; alcoholic and non-alcoholic preparations are evidently too unreliable to be trusted.

W. H. CURTIS, M.D., Wilmington, Ill.

Kerosene as a Remedy and Its Variability

JULY 1, 1909.

To the Editor:—I have been greatly interested in the article by Dr. Granville S. Haines on Amebic Dysentery (THE JOURNAL, June 19, 1909, p. 1990) and especially his use of "coal oil" (kerosene) as a remedy. This substance is quite popular with a certain class of people as an external application in sore throat, "rheumatism" and other painful affections. All specimens of the oil do not, however, seem to be identical in constitution, for I have seen a number of cases of severe blistering following its use; also one case of severe pharyngitis following the administration of a teaspoonful by mouth. In all these cases the patients (or the parents) claim to have used it previously without such reaction. From this it would seem that the liquid differs in its irritating qualities, probably owing to its origin from different wells.

The result of the use of an irritating specimen in the manner recommended by Dr. Haines might be decidedly unpleasant. G. J. KAUMHEIMER, Milwaukee.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ended July 3, 1909:

Hartsock, Frederick M., major, ordered to duty at camp at Toledo, Ohio.

Little, William L., capt., ordered to Fort Jay, N. Y., for temporary duty.

Kiersted, Henry S., capt., honorably discharged from the service of the United States, with one year's pay.

Miller, Edgar W., capt., ordered to Fort Wayne, Mich., for temporary duty.

Ewing, Charles B., major, granted leave of absence for two months, about July 25.

Fauntleroy, Powell C., major, ordered to duty at camp at Sparta, Wis.

Owen, Leartus J., capt., ordered to duty at camp at Toledo, Ohio.

McCornack, Condon C., 1st lieut., M. R. C., ordered from Plattsburg Barracks, N. Y., to duty with troops en route at Augusta, Maine.

Kierulff, H. Newton, 1st lieut., M. R. C., ordered from Fort Missoula, Mont., to Fort Snelling, Minn., for temporary duty in the field.

Giffin, Adolphe M., 1st liuet., M. R. C., ordered to active duty July 15, 1909; will proceed to Seattle, Wash., and sail August 5, for Philippine service.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ended July 3, 1909:

Rodman, S. S., P. A. surgeon, ordered to temporary duty at the Naval Recruiting Station, Indianapolis.

Guest, M. S., surgeon, detached from the Naval Academy, Annapolis, Md., and ordered to the Naval Hospital, Las Animas, Colo., for treatment.

Huntington, E. O., surgeon, granted sick leave for three months when discharged from treatment at the Naval Medical School Hospital.

Shook, F. M., P. A. surgeon, detached from duty in the department of government and sanitation, Canal Zone, Isthmus of Panama, and ordered to duty at the Naval Medical School, Washington, D. C.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the week ended June 30, 1909:

Bailhache, P. H., surgeon, directed to report at Bureau on special temporary duty.

Young, G. B., surgeon, granted 3 days' leave of absence from June 15, 1909, paragraph 189, Service Regulations.

Anderson, J. F., P. A. surgeon, directed to proceed to Detroit and Chicago, on special temporary duty.

Goldberger, Jos., P. A. surgeon, directed to proceed to New York, on special temporary duty.

Glover, M. W., P. A. surgeon, directed to make examination of keepers and surfmen of the Life Saving Service at Seattle Exposition.

Collins, G. L., P. A. surgeon, relieved from duty at Cape Charles Quarantine Station, and directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

McKeon, F. H., P. A., surgeon, directed to proceed to Hongkong, China, for temporary duty.

Warner, H. J., asst.-surgeon, directed to assume command of Cape Charles Quarantine Station.

Hunt, Reid, chief, division of chemistry, Hygienic Laboratory, detailed to attend the meeting of the American Chemistry Society, to be held in Detroit, June 29-July 2, 1909.

Doole, T. P., acting asst.-surgeon, granted 3 days' leave of absence from June 28, 1909, Paragraph 210, Service Regulations.

MacCaffry, W. B., acting asst.-surgeon, granted 10 days' leave of absence from July 11, 1909.

Reimer, H. B. C., acting asst.-surgeon, granted 5 days' leave of absence from June 12, 1909, Paragraph 210, Service Regulations.

Stevenson, J. W., acting asst.-surgeon, granted 5 days' leave of absence from June 26, 1909.

Health Reports

Cases reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 2, 1909:

SMALLPOX—UNITED STATES

California: Hobart Mills, April 1-30, 1 case, imported; Sacramento, June 5-12, 1 case; San Francisco, 1 case; Trukee, March 23, 3 cases,imported.
Georgia: Macon, June 13-20, 4 cases.
Illinois: Chicago, June 12-19, 1 case; Danville, June 13-20, 2 cases; Peoria, May 1-31, 44 cases.
Indiana: Fort Wayne, June 5-19, 21 cases; South Bend, June 12-19, 2 cases.
Kansas: Kansas City, June 12-19, 3 cases.
Kentucky: Covington, June 12-19, 1 case; Newport, June 13-20, 1 case; Paducah, June 12-19, 1 case.
Louisiana: New Orleans, June 12-19, 3 cases, 2 imported.
Minnesota: Minneapolis, May 1-31, 20 cases.
Missouri: Kansas City, June 12-19, 1 case.
Montana: Butte, June 10-17, 4 cases.
Nebraska: Lincoln, May 1-31, 14 cases.
North Carolina: In 17 Counties, April 1-30, 87 cases.
Ohio: Cincinnati, June 11-18, 3 cases.
Oregon: Portland, April 1-30, 6 cases.
Texas: San Antonio, June 12-19, 5 cases; San Saba County, April 9-May 26, 11 cases.
Utah: State, May 1-31, 135 cases.
Washington: Spokane, June 5-12, 2 cases; Tacoma, May 16-23, 2 cases, June 6-13, 2 cases.
Wisconsin: La Crosse, June 12-19, 1 case.

SMALLPOX—FOREIGN

Africa: Tripoli, April 24-May 22, 27 cases, 10 deaths.
Brazil: Bahia, May 7-14, 2 cases; Rio de Janeiro, May 16-23, 18 cases, 1 death.
Ceylon: Colombo, May 15-22, 1 case.
China: Canton, May 1-8, 5 cases; Hongkong, May 1-15, 6 cases, 5 deaths.
Egypt: Cairo, May 13-20, 5 cases, 4 deaths.
France: Paris, April 3-10, 2 cases, May 22-29, 7 cases.
Germany: Königsberg, May 15-22, 1 case.
India: Bombay, May 18-25, 12 deaths; Calcutta, May 8-15, 58 deaths; Madras, May 15-21, 2 deaths; Rangoon, May 8-15, 3 deaths.
Italy: General, May 30-June 6, 21 cases; Naples, 7 cases.
Java: Batavia, May 1-8, 3 cases.
Manchuria: Dalny, May 15-22, 2 cases, 1 death.
Mexico: Mexico City, May 8-15, 30 deaths; Monterey, June 6-13, 2 deaths; Veracruz, May 30-June 13, 2 cases, 1 death.
Portugal: Lisbon, May 22-June 5, 5 cases.
Russia: Moscow, May 15-29, 51 cases, 17 deaths; Riga, May 29-June 5, 6 cases; St. Petersburg, May 15-22, 8 cases, 8 deaths.
Servia: Belgrade, May 22-29, 2 cases.
Spain: Barcelona, May 31-June 7, 3 deaths; Valencia, May 22-29, 10 cases, 1 death.
Switzerland: Geneva, May 15-29, 9 cases.
Turkey in Europe: Constantinople, May 23-30, 1 death.
Turkey in Asia: Smyrna, May 6-13, 2 deaths.

YELLOW FEVER

Brazil: Bahia, May 7-21, 11 cases, 6 deaths; Para, May 22-29 3 cases, 3 deaths.
Mexico: Merida, June 4-11, 2 cases.

CHOLERA

India: Bombay, May 18-25, 8 deaths; Calcutta, May 8-15, 61 deaths; Rangoon, May 8-15, 1 death.
Russia: St. Petersburg, June 2-10, 58 cases, 24 deaths, June 23, 75 cases.
Straits Settlements: Singapore, May 1-8, 6 deaths.

PLAGUE

Brazil: Rio de Janeiro, May 16-23, 1 case.
Chile: Antofagasta, May 15, 6 cases in lazaretto; Iquique, May 16, 16 cases in 14 days.
China: Canton, May 1-8, 40 cases, 30 deaths; Hongkong, May 1-15, 9 cases, 6 deaths.
India: May 8-15, 5,239 cases, 4,578 deaths; Bombay, May 18-25, 136 deaths; Calcutta, May 8-15, 160 deaths; Rangoon, May 8-15, 10 deaths.
Japan: Yokohama, May 22-29, 1 case, June 2, 1 case.
Peru: May 8-15, 17 cases, 8 deaths.
Turkey in Asia: Bagdad, May 2-24, 9 cases.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Homeopathic, Little Rock, July 13. Sec., Dr. P. C. Williams, Texarkana.
Arkansas: Regular, Little Rock, July 13. Sec., Dr. F. T. Murphy, Brinkley.
Connecticut: Regular, New Haven, July 13-14. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, July 13. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, July 13. Sec., Dr. T. S. Hodge, 17 Main St., Torrington.
District of Columbia: Washington, July 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.
Indiana: 120 State House, Indianapolis, July 13-15. Sec., Dr. W. T. Gott.
Maine: State House, Augusta, July 13-14. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.
Massachusetts: State House, Boston, July 13-15. Sec., Dr. Edwin B. Harvey, Room 159, State House.
New Mexico: Santa Fe, July 12. Sec., Dr. J. A. Massie.
Oklahoma: Guthrie, July 13. Sec., Dr. Frank P. Davis, Enid.
South Dakota: Watertown, July 14-15. Sec., Dr. H. E. McNutt, Aberdeen.
Vermont: Burlington, July 13-15. Sec., Dr. W. Scott Nay, Underhill.
West Virginia: Charleston, July 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.
Wisconsin: Madison, July 13-15. Sec., Dr. J. V. Stevens, Jefferson.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS

Nineteenth Annual Convention, held at Atlantic City, June 7, 1909

The Vice-President, Dr. A. Ravogli, Cincinnati, in the Chair

There were present Drs. Edwin B. Harvey and W. T. Councilman, Massachusetts; L. F. Bennett, Wisconsin; Charles A. Tuttle. Connecticut; F. C. Zapffe and A. D. Bevan, Illinois; W. J. Means, N. R. Coleman, J. A. Duncan, R. A. Baker and M. A. Jerome, Ohio; Abraham Flexner of the Carnegie Foundation; N. P. Colwell of the Council on Medical Education; Henry Beates, J. C. Guernsey, Augustus Korndoerfer, Edward Cranch, C. S. Middleton. H. L. Northrop and D. P. Maddux, Pennsylvania; A. B. Briggs, G. T. Swarts and J. H. Bennett, Rhode Island; E. L. B. Godfrey, New Jersey; W. W. Potter, W. S. Ely, A. Vander Veer and A. T. Bristow, New York; F. S. Raymond, Tennessee; George Dock, Tulane University; W. H. Welch, Maryland; and S. D. Van Meter, Colorado.

The minutes of the eighteenth annual convention, held in Chicago, June 1, 1908, were read and approved.

Eulogy of Dr. Happel

Dr. A. Ravogli delivered an address which was a eulogy of the late Dr. T. J. Happel of Trenton, Tenn.

On motion, a committee was appointed to draft resolutions commemorating Dr. Happel, and a recess of five minutes was taken out of respect to Dr. Happel. The following resolutions were submitted by the committee and adopted by the confederation:

Whereas, By the death of Dr. Thomas J. Happel, of Trenton, Tenn., which occurred on the twenty-fourth day of May last, the National Confederation of State Examining and Licensing Boards suffers the loss of its honored President, Therefore,

Resolved, That in the death of Dr. Happel the medical profession has lost one of its most valued members and the community an honored citizen. Dr. Happel spent the greater part of his active life in the upbuilding of medical education and the medical profession in this country, and,

Resolved, That this Confederation extends its most profound sympathy to the family and relatives of the late Dr. Happel.

Resolved, That a copy of these resolutions, duly engrossed, be forwarded to the family of Dr. Happel, and the same be spread on the records of this confederation.

Report of the Executive Council

The report of this council was read by the chairman, Dr. N. R. Coleman. Acting on the recommendations contained in this report, a committee of five, all of whom are members of state boards, was appointed to investigate and report at the succeeding meeting of the confederation on the subject of clinical instruction in medical colleges; and provision was made for the presentation of this subject by clinical teachers themselves. The secretaries of each of the state and territorial examining boards, and of the District of Columbia, were appointed as a committee of official correspondents of the confederation.

Report of the Examinations Committee

Dr. J. C. Guernsey read the report of this committee, which was referred to the executive council for further consideration, and on the basis of recommendations contained therein the following resolution was adopted:

Whereas, A mixed examination, oral, practical and written, of applicants for medical licensure in every state is important, therefore be it

Resolved, That this confederation earnestly recommends to the various state boards now restricted as to their methods of conducting examinations to take proper steps to secure amendatory legislation to enable them so to conduct their examinations.

Secretary's Report

Dr. M. G. Motter reviewed briefly the work of the subcommittee on the teaching of materia medica and therapeutics of the Council on Medical Education of the American Medical Association. The recommendations contained in this report were referred to the executive council, and the following resolutions were finally adopted:

Whereas, It is generally recognized that the time available for instruction in therapeutics, materia medica and pharmacology does not suffice for the study of all the known drugs; and

Whereas, It is also recognized that the limited time can be devoted, to best advantage, to acquiring a thorough familiarity with the characters, actions and uses of the important drugs, at the expense of those of *doubtful or negative value*; therefore be it

Resolved, That the National Confederation of State Medical Examining and Licensing Boards urges on its constituents the advisability of confining examination questions to the most important preparations of the more important drugs.

Resolved, That it recommends to their attention the report of the sub-committee on the teaching of materia medica, etc., of the American Medical Association's Council on Medical Education; and be it further

Resolved, That the president of the National Confederation of State Medical Examining and Licensing Boards be, and he is, hereby authorized and instructed to appoint a committee of three to confer with the Council on Medical Education and to compile and report to this confederation a list of the more important drugs and their preparations to which the examinations of the constituent boards may be confined, this list to be published in The Journal of the American Medical Association as with the approval and endorsement of the confederation.

Officers Elected

The following officers and members of the executive council were elected for the ensuing year: President, Dr. A. Ravogli, Ohio; vice-president, Dr. J. C. Guernsey, Pennsylvania; second vice-president, Dr. Charles A. Tuttle, Connecticut; secretary-treasurer, Dr. M. G. Motter, Washington, D. C.

Executive council: Dr. N. R. Coleman, chairman; Dr. Edwin B. Harvey, Dr. James A. Duncan, Dr. Henry Beates, Dr. D. P. Maddux.

The following committees were appointed:

Committee on clinical instruction: Dr. Henry Beates, chairman; Dr. Charles A. Tuttle, Dr. Fred C. Zapffe, Dr. M. J. Lewi, Dr. L. F. Bennett.

Committee to compile list of drugs: Dr. M. G. Motter, chairman; Dr. J. C. Guernsey, Dr. George MacDonald.

Papers Read

The following papers were read:

"The Necessity of a Practical Test for Candidates in the State Examinations," by Dr. J. C. Guernsey; "Need, Methods and Value of Medical College Inspection," by Dr. N. P. Colwell; "Standing of Medical Colleges," by Dr. James A. Duncan; "Practical versus Theoretical Examinations," by Dr. W. T. Councilman; "The Inadequacy of the Written Examination," by Dr. Edwin B. Harvey; "What Branches or Portions of Branches Should be Included in the Written, and What in the Oral Examinations?" by Dr. J. C. Guernsey; "Is It to the Best Interests of Students and Medical Examining Boards to Have Divided Examinations?" by Dr. William Warren Potter; "The Feasibility of Practical Examinations," by Dr. Augustus Korndoerfer; "How Can Practical Examinations be Graded and Recorded?" by Dr. L. F. Bennett.

New Members

Dr. Edward Cranch of Erie, Pa., Dr. George MacDonald of Washingon, D. C., and Dr. A. B. Briggs of Providence, R. I., were elected to membership.

Next Meeting Place

St. Louis was selected as the meeting place for 1910, the meeting to be held the day preceding the meeting of the American Medical Association.

Association News

NEW MEMBERS

For the Month of June

The following is a list of new members of the American Medical Association for the month of June, 1909. Names marked with stars or daggers are of those who became members at the Atlantic City session; the dagger indicates that the name so marked was previously on the subscription list:

ALABAMA

Casey, T. A., Birmingham.
†McCafferty, E. L., Mt. Vernon.
*Partlow, W. D., Tuscaloosa.
Taylor, T. F., Tuskegee.

ARIZONA

White, D. W., Phenix.

ARKANSAS

Caldwell, Robt., Little Rock.
Cannon, G. E., Magnolia.
Gray, E. M., Poughkeepsie.
†Hinkle, C. G., Batesville.
Wood, Clark, Fort Smith.

CALIFORNIA

†Farris, C. M., Sacramento.
Hess, H. A., San Francisco.
Irones, R. H., San Diego.
Jacobs, S. N., San Francisco.
Jones, C. B., Sacramento.
McCue, J. E., San Rafael.
†Morrow, Howard, San Francisco.
Porter, Langley, San Francisco.
Remmel, A. J., San Francisco.
Rookledge, P. L., Cambria.
Smith, F. J., San Diego.
*Wymore, W. W., San Francisco.

COLORADO

Matson, W. F., Denver.
Woodruff, R. H., Segundo.

CONNECTICUT

*Alling, A. N., New Haven.
*Keating, W. P. S., Willimantic.
†Morrissey, M. J., Unionville.
Watson, W. C., Bridgeport.
*Weidner, Calvin, Manchester.

DELAWARE

†Blake, C. H., Newark.

DIST. OF COLUMBIA

Foote, J. A., Washington.
Greene, W. P., Washington.
*Heinecke, G. B., Washington.
†Miller, M. E., Washington.

GEORGIA

Ballenger, E. G., Atlanta.
Cunningham, F. M., Macon.
Jones, Jabez, Savannah.
Massoud, M. A., Stillmore.
*Wise, B. T., Jr., Plains.

ILLINOIS

Barker, F. M., Waukegan.
Bascom, H. M., Ottawa.
Connor, W. H., Chicago.
Enright, W. J., Chicago.
Farrell, E. J., Rockford.
Haeffner, A. W., Chicago.
Hayes, Richard, Odell.
*Hecker, W. H., Watseka.
†Hector, W. S., Chicago.
Herb, Isabella C., Chicago.
deKieffer, O. M., Chicago.
Leeson, F. W., DeKalb.
Paddock, W. R., Lockport.
Tow, Johanna E., Chicago.
Weber, A. T., Chicago.

INDIANA

†Harpole, C. B., Evansville.
Huffman, Wm. G., Richmond.
Krueger, F. W., Richmond.
Mayfield, C. H., Brookville.
†Norton, F. D., Columbus.
*Shimer, Will, Wanamaker.
Spooner, J. P., Peru.
Warwick, C. A., South Bend.

IOWA

Austin, H. M., So. English.
Bothwell, C. D., Fairbank.
Bruechert, H. N., Parkersburg.
Campbell, S. A., Malvern.
Christy, Edgar, Glenwood.
Crabbe, A. A., Traer.
Cretzmeyer, F. X., Emmetsburg.
Ensley, B., Shell Rock.
Everall, B. C., St. Olaf.
†Fox, W. H., Waucoma.
Goff, H. L., Lamont.
Hartley, G. A., Battle Creek.
Hinkle, G. W., Harvard.
Hunt, H. H., Hazleton.
Ingersoll, R. Z., Promise City.
Jessup, A. E., Diagonal.
McColm, C. W., New Market.
McConnaughey, J. T., Wayland.
Phillips, N. W., Hanlontown.
†Porath, W. C., Varina.
Printz, E. T., Moulton.
Rimer, E. M., Guernsey.
Scott, Sophie H., Des Moines.
Shope, C. C., Des Moines.
Smith, H. T., Humeston.
Stolley, J. G., Moville.
Tate, T. E., Albia.
Van Dyke, J. H., Cedar Falls.
Walles, J. W., Davis City.
*Walsh, T. N., Hawkeye.
Young, P. G., Hocking.

KANSAS

DePew, F. L., Howard.
Light, R. A., Chanute.
Long, A. J., Elk Falls.
*Maser, G. W., Parsons.

KENTUCKY

*Alderson, S. P., Russellville.
Dale, C. F., Lexington.
Dotson, W. A., Phelps.
Gibbs, S. C., Lawrenceburg.
Hill, A. F., Vanceburg.
Houston, E. B., Hazel.
Kidd, C. E., Paducah.
†McClymonds, J. T., Lexington.
†Minish, L. T., Frankfort.
Patrick, W. F., Louisville.
Richardson, W. F., Lewisburg.
†Strother, F. P., Madisonville.
Taylor, James, East Fork.
Travis, W. T., Tribune.
Washburn, L. L., Heights.
Weidner, Carl, Louisville.

LOUISIANA

Blum, H. N., New Orleans.
*Craighead, C. C., Athens.
*Hendrick, J. A., Shreveport.

MAINE

†Beckler, W. B., Auburn.
Bucknam, R. W., Bryant Pond.
*Kilburn, Frank, Presque Isle.

MARYLAND

†Buck, Jefferies, Baltimore.
*Fitzhugh, H. M., Westminster.
*Hodgson, H. W., Cumberland.
Legg, T. H., Union Bridge.
Leopold, E. J., Baltimore.
*Shull, J. D., Baltimore.

MASSACHUSETTS

Anthony, J. C., Springfield.
Bellchumeur, D. S., Lowell.
Broderick, F. P., Jamaica Plain.
Carey, B. W., Fitchburg.
†Deems, O. M., Springfield.
Fuller, C. B., Waltham.
Kilbourn, A. G., Groton.
†Maloney, D. W., Watertown.
McCarthy, E. A., Fall River.
McKibben, W. W., Worcester.
Morrison, A. B., Boston.
Pettey, J. A., Brockton.
Thompson, F. H., Jr., Fitchburg.
Wernick, B. G., Boston.

MICHIGAN

Baskett, G. T., Ann Arbor.
Berggren, T. J., Battle Creek.
*Black, J. C., Milford.
†Fluemer, O. C., Mt. Clemens.
Macqueen, D. K., Laurium.
Madajesky, E. H., Bessemer.
†Maguire, F. J. W., Detroit.
Mates, E. L., Dowagiac.
†McVeigh, J. A., Detroit.
*Miller, E. C. L., Detroit.
Parker, W. T., Corunna.
Ribbeck, W. A., Addison.
Ulbrich, H. L., Detroit.

MINNESOTA

Collins, A. N., Austin.
Hill, H. W., Minneapolis.
†Moe, A. J., Heron Lake.
Oberg, C. M., Minneapolis.
Rodgers, C. L., Minneapolis.

MISSISSIPPI

Howard, L. H., Kosciusko.

MISSOURI

Bulkley, J. F., La Plata.
†Carter, J. J., Weston.
Chastain, C. W., Plattsburg.
Goodson, W. H., Liberty.
Lemmon, G. B., Springfield.
*Miller, R. F., St. Louis.
Mosher, G. C., Kansas City.
Richter, Geo., St. Louis.
Rohlfing, H. A. L., St. Louis.
Southern, J. N., Monroe City.
Thumser, Lawrence, St. Louis.
Vinyard, Paul, St. Louis.
Weiss, William, St. Louis.

MONTANA

Lakey, W. J., Kendall.
Loomis, E. A., Somers.
Owens, R. L., Hamilton.

NEBRASKA

Crook, Roy, Winnetoon.
Johnson, C. C., Creighton.
Lieber, Chas., Omaha.
Walker, G. H., Lincoln.

NEVADA

Ballance, W. P., Searchlight.
Barbee, C. M., Goldfield.

NEW HAMPSHIRE

Fraser, S., Wentworth.

NEW JERSEY

Bush, A. C., Verona.
Craig, J. M., Lakewood.
†Cregar, P. B., Plainfield.
Day, H. V., Butler.
Frace, P. W., Hoboken.
*Henry, F. C., Perth Amboy.
†Jenifer, Danl. of St. Thos., Atlantic City.
*King, G. W., Secaucus.
†Lamson, W. J., Summit.
*Leavitt, J. F., Camden.
†MacDowall, J. D., Perth Amboy.
*Mahaffey, J. L., Camden.
†Mason, W. M., Atlantic City.
†Mitchell, A. J., Newark.
Rose, H. L., Camden.
†Rosenwasser, C. A., Newark.
Schuck, T. J., Hoboken.
*Shangle, M. A., Elizabeth.
†Van Vranken, G., Passaic.
*Ware, F. V., Millville.
*Wells, J. M., Trenton.

NEW MEXICO

†Cook, J. O., Taos.
†Cornish, P. G., Albuquerque.
†Lukens, C. E., Albuquerque.

NEW YORK

*Andrews, L. M., Warsaw.
*Bates, J. F., Setauket.
Bayliss, F. P., Utica.
Bernstein, H. A., New York City.
*Bogue, F. L., New York City.
*Boyce, J. N., Stanfordville.
†Brown, C. M., Buffalo.
*Bryant, H. A., Schenectady.
Chamberlain, A. R., New York City.
Cohn, Louis, New York City.
†Collins, J. H., Schenectady.
†Cunningham, J. A., Brooklyn.
*Haase, Charles, Elmira.
Hellman, A. M., New York City.
Huntley, J. F., Oneida.
Imperatori, C. J., New York City.
*Johnson, B. C., Buffalo.
Kosak, F. F., New York City.
Lang, Ludwig, New York City.
†Le Brun, Louis, Albany.
Lehman, Max, Glendale.
Locke, H. G., Syracuse.
*Maben, B. W., Kingston.
MacEvitt, James, Brooklyn.
†McParthon, Peter, Schenectady.
Morrison, J. F., Brooklyn.
Mynderse, H. V., Schenectady.
*O'Brien, D. D., Oswego.
†Phelps, A. W., East Aurora.
†Richards, C. A., Dunkirk.
Rickard, W. L., Brooklyn.
Samorini, A. A., Schenectady.
†Shannon, J. R., New York City.
*Shipman, E. W., New York City.
Silliman, G. S., Westbury.
*Slee, Richard, Nanuet.
Snyder, W. H., Newburgh.
Stark, G. W., Syracuse.
†Steen, W. D., New York City.
Steinhardt, I. D., New York City.
Thro, W. C., New York City.
†Wallace, G. B., New York City.
†Warren, J. S., New York City.
Wilcox, H. B., New York City.
Wilson, E. B., Brooklyn.
Woodhouse, F. E., Elmira.
*Yankauer, G. G. Prior, New York City.
Zwetsch, J. D., Gowanda.

NORTH CAROLINA

†Brantly, H., Spring Hope.
*Brookshire, H. G., Asheville.
†Calloway, A. W., Asheville.
*Halsey, B. F., Roper.
†King, R. M., Concord.
†Turner, J. P., Greensboro.

NORTH DAKOTA

*Brandt, A. M., Bismarck.
Marsden, C. S., Grand Forks.
Mayland, L. L., Rydes.
Thyng, D. K., Willow City.

OHIO

†Berghausen, Oscar, Cincinnati.
*Bratton, H. O., Columbus.
Chamberlain, W. P., Cleveland.
*Davis, D. W., Wellston.
*Dowling, Francis, Cincinnati.
Gudenkauf, A. B., Sidney.
†Heller, F. S., Oak Harbor.
Hill, J. E., Akron.
Huffman, O. V., Dayton.
Hull, W. H., Cincinnati.
Kuta, F. J., Cleveland.
*Osborne, H. M., Youngstown.
†Quayle, J. H., Cleveland.
Remy, T. H., Hanging Rock.
*Schaeffer, G. C., Columbus.

OKLAHOMA

Ambrosewf, S. A., Muskogee.
Hollingsworth, J. E., Spavinaw.
Hughson, F. L., Centralia.

PENNSYLVANIA

Armstrong, W. J., Kane.
Beck, F. W., Girard.
Bender, E. C., Philadelphia.
Betts, W. W., Chadds Ford.
Blair, W. W., Pittsburg.
Bogart, A. E., Philadelphia.
Brace, R. W., Philadelphia.
Bricker, E. B., Lititz.
Burkett, J. W., Moon Run.
*Carrier, Frederic, Philadelphia.
Cisna, W. R., Ickesburg.
†Clapp, G. H., Philadelphia.
Clifford, E. M., Greensburg.
Cross, G. H., Chester.
Davis, J. L., Philadelphia.
*Eisenhower, C. W., Jacobus.
Enoch, G. F., Philadelphia.
*Funke, John, Philadelphia.
*Gaughan, M. C., Pittston.
†Gilliland, C. J., Sharon.
*Hazlett, E. M., Washington.
†Heller, C. E., Williamsport.
*Henritzy, O. E., Slatington.
†Howe, William, Shingle House.
†Huber, G. W., Scranton.
*Hunter, J. R. W., Lewistown.
†Hutton, F. C., Philadelphia.
†Kennedy, D. J., Philadelphia.
*Laws, G. M., Philadelphia.
†LeFevre, R. E., Reading.
†Leopold, Samuel, Philadelphia.
†Lownes, J. B., Philadelphia.
†Luburg, L. F., Philadelphia.
†MacCarroll, D. R., Philadelphia.
*McAninch, D. L., Lamartine.
†McGlenn, J. A., Philadelphia.
McLaughlin, P. A., Kingston.
Mellor, Howard, Philadelphia.
Mencke, J. B., Philadelphia.
*Milnor, R. H., Warrensville.
†Moore, J. G., Philadelphia.
†Murray, J. H., Reynoldsville.
Penrose, T. W., Philadelphia.
†Popp, J. M., New Castle.
†Pratt, C. H., Philadelphia.
†Schaubel, C. W., Philadelphia.
†deSchweinitz, G. L., Philadelphia.
Shoemaker, A. M., White Haven.
*Shuman, Ambrose, Catawissa.
*Sutton, H. A., Philadelphia.
Vermilyea, C. S., Russell.
Weyant, H. W., Philadelphia.
Wheeler, A. C., Erie.
White, E. P. C., Norristown.
*Winnebrake, A. J., Scranton.
Wright, H. A., Puritan.

RHODE ISLAND

*Irvine, W. L., Newport.

SOUTH CAROLINA

Edwards, H. A., Latta.

SOUTH DAKOTA

Griffin, M. E., Mitchell.

TENNESSEE

Binkley, D. C., Denver.
Capell, John, Chattanooga.
Cochrane, H. P., Franklin.
Edwards, J. L., Brownsville.
Hayden, E. Forrest, Nashville.
Hunt, I. E., St. Bethlehem.
Littlejohn, Alice, Memphis.
Neas, A. J., Parrottsville.
Toombs, Percy W., Memphis.
Wood, J. O., Morristown.
Yancey, S. M., Dayton.

TEXAS

Ashby, D. S., Amarillo.
†Davis, J. S., Blooming Grove.
Fitzpatrick, W. W., Paris.
Hanks, J. M., Blum.
Hilburn, R. E., Antelope.
†Kennedy, A. B., Bonham.
Mynatt, A. J., Houston.
Rush, H P., Stanford.
Starker, C. T., El Paso.

UTAH

Steiner, J. J., Richfield.

VERMONT

Buttles, E. H., Burlington.

VIRGINIA

Armentrout, J. F., Staunton.
Chelf, H. T., Culpeper.
Coleman, D. J., Richmond.
*Fowlkes, F. V., Burkville.
Freed, J. W., Waynesboro.
†Freeman, A. W., Richmond.
McCulloch, J. H., Richmond.
*Moomaw, B. C., Roanoke.
Pretlow, R. H., Suffolk.
Rea, M. L., Charlottesville.
Richardson, T. S., Waynesboro.
Thomasson, D. M., Lynchburg.
Thornhill, W. B., Lynchburg.

WASHINGTON

Chessman, F. N., Seattle.
†Cunningham, J. G., Spokane.
Kelley, E. R., Seattle.
Lambert, S. E., Spokane.
O'Shea, T. H., Spokane.
Snoke, J. W., Ft. Steilacoom.

WEST VIRGINIA

Anderson, J. H., Marytown.
Fortney, C. S., Hundred.
*Fox, J. F., Bluefield.
Gruber, M. F., Helvetia.
Klase, W. N., Carbondale.
Littlefield, J. R., Albert.
†Mason, S. M., Clarksburg.
*Spragg, S. L. S., Wheeling.
Talbott, L. W., Elkins.

WISCONSIN

Bauer, K. T., Kewaskum.
Bryant, W. V., Madison.
Burdick, A. F., Beloit.
†Cavanaugh, C. E., Milwaukee.
Egan, G. J., La Crosse.
*Kelly, W. W., Green Bay.
Kings, J. S., Watertown.
Kremers, Alex., Milwaukee.
Matthews, J. B., Milwaukee.
Schmit, A. I., Beloit.
Smith, C. E., Beloit.
Towne, W. H., Shrocton.
Vedder, J. B., Marshfield.

WYOMING

Fox, G. A., Cheyenne.

MANILA, P. I.

*Gurney, S. C., Manila.
Rochester, A. S., Manila.

Marriages

John A. Anderson, M.D., to Miss Josephine V. Barron, at Baltimore, June 9.

J. S. Hebb, Jr., M.D., Baltimore, to Miss Ida Spranklin, at Baltimore, June 12.

Joseph A. Moore, M.D., to Miss Helen R. Collins, both of Philadelphia, June 23.

T. Frederic Doescher, M.D., to Miss Emma Pendell, both of Albany, N. Y., June 22.

Eldon Jesse Smith, M.D., to Miss Ethel Kate McMullen, both of Burwell, Neb., June 23.

Pitt Stevens Wilson, M.D., Negaunee, Mich., to Miss Una Potter of Grand Rapids, June 30.

Reuben A. Wall, M.D., Baltimore, to Miss Mary Agnes Browne, at Pittsburg, Pa., June 16.

Robert Bruce Blue, M.D., Wichita, Kan., to Miss Harriette Veronica Read of Chicago, June 30.

Lynn Murray Jones, M.D., to Miss George Rosamond Boyer, both of Dayton, Ohio, June 30.

Erwin Staner Hottinger, M.D., Chicago, Ill., to Miss Estelle M. Flanagan of St. Louis, June 19.

Fred Albert, M.D., Mason City, Iowa, to Miss Gertrude Giltins of Williamsburg, Iowa, June 18.

Charles Wesley Evans, M.D., Springfield, Ohio, to Miss Nellie Wiley at New Park, Pa., June 17.

Walton H. Hopkins, M.D., Annapolis Md., to Miss Lila Holmes Trenholm, at Baltimore, June 23.

Merritt Flint Phillips, M.D., to Miss Elizabeth Gratz Tyler, at Sackett's Harbor, N. Y., June 23.

Frederick V. Beitler, M.D., Halethorpe, Md., to Miss Daisy M. Carson of Baltimore, at Halethorpe, June 22.

Daniel Francis Crowley, M.D., Des Moines, Iowa, to Miss Rosemary Catherine Langdon of Omaha, Neb., June 22.

Deaths

Thomas Brady Greenley, M.D. University of Louisville (Ky.) 1846; a member of the American Medical Association for many years, and a charter member of the Mississippi Valley Medical Association; once president of the Kentucky State Medical Society; an honorary member of the Jefferson County (Ky.) Medical Society; and a member of the American Association of Railway Surgeons; for thirty years local surgeon for the Illinois Central Railroad; a practitioner of Meadow Lawn, Ky., for more than sixty years, and universally respected and beloved; died in St. Joseph's Infirmary, Louisville, June 25, from senile debility, aged 90.

John Wright, M.D. Medical College of Ohio, Cincinnati, 1854; formerly of Clinton, Ill.; a member of the American Medical Association; charter member of the Dewitt County (Ill.) Medical Society; a life member of the Illinois State Medical Society, and its president in 1890; surgeon of the One Hundred and Seventh Illinois Volunteer Infantry; and later brigade and division surgeon during the Civil War, died at his home in Long Beach, Cal., May 21, from heart disease, aged 83.

Quitman N. Kohnke, M.D. Tulane University of Louisiana, New Orleans, 1890; a member of the American Medical Association; for eight years president of the board of health and health officer of New Orleans; once a member of the city council; who figured conspicuously in the yellow-fever epidemic in New Orleans in 1905; died at his summer home in Covington, June 26, from cerebral hemorrhage, aged 51.

James McVean Mackall, M.D. Georgetown University, Washington, D. C., 1873; a member of the Medical Society of the District of Columbia; surgeon of the Third U. S. Cavalry during the Spanish-American War; an expert on yellow fever, and detailed for duty at Diaquiri, Cuba; died at his home in Washington, D. C., June 26, from debility, due to the extreme heat, aged 57.

Meigs Case, M.D. New York University, New York City, 1857; surgeon of the Forty-third New York Volunteer Infantry during the Civil War, and in charge of the Seminary Hospital, Hagerstown, for four months after the battle of Antietam; a lifelong resident of Oneonta, N. Y.; died at his home in that city, June 14, from heart disease, aged 72.

Francis Edward Fitzgerald, M.D. John A. Creighton Medical College, Omaha, 1901; a member of the Nebraska State Medical Association; professor of skin diseases in his alma mater from 1903 to 1904, and demonstrator of anatomy; visiting physician to St. Joseph's Hospital, Omaha; died at his home in Omaha, June 21, from tuberculosis, aged 37.

Warren Bourne Evans, M.D. State University of Iowa, Iowa City, 1873; mayor and postmaster of Dow City and Arion, Iowa; for several years coroner of Crawford county; and local U. S. pension examining surgeon; who had suffered from diabetes for fourteen years; died in Crofton, Neb., from cerebral hemorrhage, June 17, aged 65.

Samuel Biddell Tomlinson, M.D. Medical College of Ohio, Cincinnati, 1855; a pioneer practitioner of Cincinnati; and first secretary of the Cincinnati Academy of Medicine; surgeon in the Confederate Service during the Civil War; died at his home in Cincinnati, June 25, from senile debility, aged 77.

William M. Tomlinson, M.D. Transylvania University, Lexington, Ky., 1849; of Wilmette, Ill.; at one time a member of the Chicago Board of Health, and a member of the local board of U. S. Pension Examining Surgeons; was run over by a train at Wilmette and killed, June 28, aged 81.

Thomas P. Welch, M.D. Barnes Medical College, St. Louis, 1897; a member of the staff of the St. Petersburg (Fla.) Infirmary; surgeon of the First Missouri Infantry, U. S. V., during the Spanish-American War; died at his home in St. Petersburg, June 22, from heart disease, aged 36.

George H. Heron, M.D. Howard University, Washington, D. C., 1877; a veteran of the Civil War; for several years a clerk in the treasury department and pension office, Washington; died at his home in that city, June 27, from cerebral hemorrhage, aged 72.

John A. McGuire, M.D. Starling Medical College, Columbus, Ohio, 1881; of Santa Cruz, Cal.; a member of the Medical Society of the State of California; died suddenly from angina pectoris, while making a professional call at Twin Lakes, June 21, aged 68.

Alexander Wiley McClintock, M.D. Miami Medical College, Cincinnati, 1895; formerly of Cissna Park, Ill.; some-time member of the Ford-Iroquois Medical Society; died at his home near Phoenix, Ariz., June 17, from tuberculosis, aged 42.

Ambrose S. Everett, M.D. St. Louis College of Homeopathic Physicians and Surgeons, 1870; at one time physician of Arapahoe county, Colo.; a veteran of the Civil War; died at his home in Denver, June 24, from heart disease, aged 68.

John Weiszgerber, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the Philadelphia County Medical Society; and a police surgeon of Philadelphia; died at his home in that city, June 23, from pneumonia, aged 43.

Ruel Stearns Gage, M.D. New York University, New York City, 1877; a member of the American Medical Association; for twenty-five years a leading practitioner of Newark, N. J.; died at his home in that city, June 27, aged 64.

John G. Van Schoiack, M.D. Eclectic Medical Institute, Cincinnati, 1861; of Ottawa, Kan.; for many years physician of Franklin county; died at the home of his son in Kansas City, June 19, from cerebral hemorrhage, aged 74.

Franklin Louis Meyers, M.D. Bellevue Hospital Medical College, New York City, 1887; formerly a member of the school board and a city physician of Newark, N. J.; died at his home, June 26, from heart disease, aged 55.

Ralph Detmer Woods, M.D. University of Pennsylvania, Philadelphia, 1907; a surgeon for the Carnegie Steel Company, Pittsburg; died at the West Penn Hospital in that city, June 23, from pneumonia, aged 30.

Wilfred Daniel McDonald, M.D. College of Physicians and Surgeons, Boston, 1908; of Roxbury, Mass.; was drowned while attempting a long distance swim at Woburn, Mass., June 27, aged 33.

Abraham H. Iler, M.D. Medical College of Ohio, Cincinnati, 1861; surgeon in the Federal service during the Civil War; died at his home in Blue Ball, Ohio, June 23, from senile debility, aged 88.

John H. Ruhl, M.D. University of Pennsylvania, Philadelphia, 1883; an eye, ear, nose and throat specialist of Middletown, Pa.; died at his home June 27, from rheumatic endocarditis, aged 49.

Walton S. Greene, M.D. University of Pennsylvania, Philadelphia, 1888; for three terms a member of the State Board of Health of Mississippi; died recently at his home in Aberdeen, aged 45.

James H. Thomas, M.D. University of Maryland, Baltimore, 1851; died at his home in Cabin Creek, near Hurlock, Md., June 20, from cerebral hemorrhage, aged 81.

Levi W. Carter, M.D. Hahnemann Medical College, Chicago, 1871; of Peoria; died at the Proctor Home in that city, June 23, from paralysis, aged 74.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

VITAL STATISTICS

CRESSY L. WILBUR, M.D.
Chief of the Division of Vital Statistics, Bureau of the Census
WASHINGTON, D. C.

A very high degree of interest continues to be manifested in the subject of vital statistics and the necessity for adequate registration laws as a part of the sanitary administration of the state. Bills for this purpose have been before the legislatures of seven states during the present year, and in five states more or less comprehensive registration laws have been passed.

Delaware: First in order, in Delaware, some amendatory legislation was enacted so that the provisions of the state law for the registration of deaths are now strictly in compliance with those recommended by the American Medical Association, the American Public Health Association, and the Bureau of Census. It may not be remembered that for a brief period Delaware was considered a registration state, but a test made of the completeness of registration under the old law proved that much less than the requisite number of deaths was actually registered. The amendments of the present law require the division of the three counties of the state into suitable local registration districts, each with a local registrar, and provide that the body of no dead person shall be interred or removed without the immediate filing of a certificate of death of the standard form and the issue of a burial permit. I confidently expect that under the operation of this law Delaware will soon be entitled to admission as a registration state. The provisions relating to births and marriages were left unchanged, it being deemed wiser to secure their amendment after the new method of registration of deaths has proved a complete success in practice.

North Carolina: The year 1909 will always be memorable if our anticipations are realized, for the enactment of the first, fairly general registration law for deaths capable of giving accurate results in any of the southern states. I refer to the law passed by the recent legislature of North Carolina through the efforts of Doctor Lewis, which makes the requirement of burial permits compulsory for all municipalities of 1,000 population and over. The expectation is that, after the law has been effectively enforced for some time, it may be extended to the rural portion of the state. It is the first instance, however, of a general requirement applicable to all cities of a southern state, as our returns at present are based solely on the results of registration under municipal ordinances.

Missouri: The most notable result of the movement for better legislation is the enactment of a thoroughly comprehensive law for the registration of births and deaths in Missouri. This law follows closely the methods which have resulted in success in Pennsylvania and Ohio, and the state authorities are now engaged in the preliminary work of organization. As all practical registration officials know, there is many a difficulty to overcome in transmuting an adequate registration law into accurate registration returns, but I have confidence that for Missouri, as for Pennsylvania and Ohio, with an adequate registration law, the details of its operation will be worked out satisfactorily and we shall have a notable addition to the registration area as a result of the legislation during the present year.

Arizona: Through the energy of Dr. Godfrey a registration law has been passed also for the territory of Arizona, and very excellent blanks of the standard form for both births and deaths will soon be in use.

Tennessee: The remaining state in which a registration law has been passed during the present year in Tennessee. I have not available a certified copy of the act as passed, but from a copy of the bill which I understand was passed without material modification, I am very sorry to say that this is one of the old type of registration laws concerning whose usefulness or, rather, lack of usefulness, there can be no question of doubt. It provides for the discarded method of enumeration for births and deaths, for their return annually through the clerks of the county courts, and in general includes all of the worthless features of similar laws that have been tested and discarded in many states. It is unfortunate that such legislation should be enacted for it only makes more difficult the passage of a proper law. This is shown clearly in the effort made this year to secure a modern law for Illinois and perhaps also for Kansas. The fact that these states have laws at the present time whose imperfections are not well understood except by those who have given careful consideration to the subject undoubtedly hinders the passage of proper legislation.

In addition to the seven states to which I have referred, it is possible that some effort will be made to secure legislation in Georgia, whose legislature meets during the present month. For the first time in the history of the census an effort has been made to secure transcripts of all births registered in the United States based on the original returns in state and municipal offices. The resulting compilation will be for the year 1908 and will doubtless present data of interest and importance, although one of the principal services to be rendered by it will be to demonstrate clearly the very unsatisfactory condition of birth registration in this country. The return of transcripts of the original records of births will enable a system of checking and testing to be made by the Bureau of the Census, so that the relative amounts of deficiency in registration of births can be determined approximately for the various states. Should the results justify it and the registration be found sufficiently complete in any extended area, the regular annual compilation of births may be continued.

Society Proceedings

COMING MEETINGS

American Ophthalmological Assn., New London, Conn., July 14-15.
British Columbia Med. Assn., Seattle, Wash., July 19.
Idaho State Medical Association, Seattle, Wash., July 19.
Oregon State Medical Association, Seattle, Wash., July 19.
Washington State Medical Association, Seattle, July 20.

RHODE ISLAND MEDICAL SOCIETY

Ninety-eighth Annual Meeting, held in Providence, June 1, 1909

The President, DR. FRANK B. FULLER, of Pawtucket, in the Chair

Officers Elected and Committees Appointed

The officers elected for the ensuing year were named in THE JOURNAL, June 12, p. 1935. The following committees were appointed: Committee of arrangements, Drs. F. E. Burdick, A. A. Barrows and J. B. Ferguson; committee on the library, Drs. G. D. Hersey, G. L. Collins, F. L. Day, G. S. Mathews and H. G. Partridge; committee on publications, Drs. G. D. Hersey, C. M. Godding and G. T. Swarts; committee on necrology, Drs. D. Churchill, E. E. Pierce and C. G. Hilliard; committee on legislation, state and American Medical Association, Drs. G. T. Swarts, W. F. Gleason, W. L. Munro, E. Kingman and S. A. Welch; building committee, Drs. J. W. Mitchell, R. F. Noyes, F. H. Peckham, F. T. Rogers and J. M. Peters; committee on education of the American Medical Association, for three years, Dr. C. V. Chapin.

Official Reports

The annual report of the secretary showed that the society had 392 members. Of these, 353 were active fellows, 28 nonresidents and 11 honorary.

The committee on library, through Dr. Hersey, chairman, reported that 319 bound volumes, 288 reprints and 312 pamphlets had been received.

The committee on legislation through Dr. Swarts, chairman, reported that during the year the optometry bill had become a law; the bill regulating the practice of osteopathy had failed; the fee of the medical examiners for a view had been increased from four to five dollars, and a law had been passed requiring physicians to report all cases of tuberculosis to the State Board of Health, beginning July 1, 1909. Dr. Swarts also said that since the visit of the committee of the American Medical Association to the medical schools of the country and their rating of them, no applicant to practice medicine in this state had been or would be examined unless he came from a school having a rating of 70 per cent. or more.

On invitation of Dr. John M. Peters, the Crawford Allen Ward of the Rhode Island Hospital, situated at Quidnessett, near East Greenwich, was selected as the place of the September meeting.

Essay Prizes Offered and Awarded

The trustees of the Chase-Wiggin Fund reported that for the year ending May 1, 1910, a prize of $50 is offered for the best popular essay on the subject of "Tobacco and Its Evil Effects on Those who Habitually Use It."

The trustees of the Fiske Fund reported that the prize of $200 offered for the best essay on the subject, "The Mode of Infection and the Duration of the Infectious Period in Scarlet Fever," had been awarded to Dr. Charles V. Chapin of Providence.

For 1910 a prize of $200 is offered for the best essay on the subject, "The Classification and Treatment of the Diseases Commonly Known as Rheumatism."

Treatment of Tuberculosis

DR. JAMES L. WHEATON, JR., Pawtucket: Many so-called modern ideas of the treatment of tuberculosis were practiced by the ancient Greeks, such as elevated places of residence and open air life. Socrates and Aristotle recognized contagiousness. The laws of the Talmud, 500 years before Christ, forbade the eating of tuberculous meat. During the dark ages we hear little of tuberculosis because the barbarians who overwhelmed civilization were open air dwellers and tuberculosis did not flourish among them. The search for a specific treatment has been long and has progressed only to the extent that tuberculin is recognized as an adjunct in diagnosis. Most methods of treatment have helped but little, such methods as inoculation, hydrotherapy, inhalations, electricity or surgery. Climate helps, but care is needed in selection. Sanataria are of benefit but also need to be used with judgment. Inasmuch as most patients remain at home special clinics and district nursing are of great service. On the whole, we may assert that we have done little but cover the smoke while the fire rages underneath. We need to study allied problems. As tuberculosis is largely a disease of the poor, we must look at it from the poor man's position. Why may we not have committees of public-spirited men who will consider what laws should be enacted, what supervision of schools, what regulations of employments and over shops and tenements, and what educational methods regarding tuberculosis shall be employed? Bring all methods into play in the spirit of cordial cooperation.

Working of the Medical Practice Act in Rhode Island in the Last Fourteen Years

Dr. Gardner T. Swarts, Providence: The act regulating medicine in Rhode Island went into effect July 16, 1895. Before that time considerable work had been done by the Rhode Island Medical Society and others but without success. The law started with a time limit provision for those who had practiced five years, with the result that many are practicing today who were best excluded. It was thought that this class of men would soon die out, but the contrary has been the experience. Among those who receive certificates because they present diplomas there are constantly appearing men with like evil tendencies, especially abortionists. It may be stated in this connection that only one conviction has been secured in Rhode Island of an abortionist, and here the defendant confessed. After seven years' trial, the medical practice act was amended to require an examination of every applicant. The poorer students were found to come to Rhode Island and Massachusetts, where requirements were not so arduous as in many states. In 1908 a good deal was required, and since then the number of applicants has diminished and qualifications have improved. After the visit of the committee of the American Medical Association to the various medical schools and its rating of them, a requirement has been that the applicant must come from a school rated as over 70 per cent. Certain sects and special lines of practice are always asking for special legislation and the optometrists have succeeded. Midwives do harm, as cases prove. Peripatetic clinics prey on the public but are gone before evidence can be secured or used. A photograph of applicants to practice is required as substitution was formerly practiced. Residents just over the state line invade Rhode Island for a few hours. Advertisers need constant attention. Few changes have been made in the law but, rather, its provisions have been tested by time. The law has been administered not in spectacular ways but used as a deterrent to unlawful practices. While the executive officer of the board may have chafed in not having more perfect law and also under the sometimes seemingly singular interpretation of the laws by a higher court, yet the people of the state and the profession should, with the board, feel comforted to know that the working of the medical practice act has held improper practice of medicine within the safety line.

President's Address: Medical Progress During the Last Thirty Years

Dr. Frank B. Fuller, Pawtucket: The great change is the beginning of the establishment of scientific basis for many medical procedures and the hope that many more will follow. As a practicing physician, the one discovery that has impressed me is the work of Behring, Roue and others concerning diphtheria. Tuberculosis has been successfully attacked. The way of looking at it has changed for the better. Many new methods of treatment have sprung up. The mortality of rabies has greatly lessened. Tetanus has been aborted with timely injections. Epidemic cerebrospinal meningitis has been reduced in mortality three-fourths. In the South the discovery of the hookworm disease and its cure through the investigation of Dr. Stiles is of widespread importance. Preventive medicine has made wonderful progress in the destruction of carriers as mosquitoes, rats, flies and pests. Surgery has had a wonderful development. We are in advance in the possession of governmental and endowed institutions for scientific study. Special lines have become necessary with special laboratories. Compulsory scientific treatment will follow compulsory notification. Society already cares for the sick and unfortunate, and old age pensions are proposed. Regulation of water and food supplies, of dwellings, workshops and many other things is in progress. Diagnosis is more certain, more quickly made and satisfactory treatment applied. In the future, teachers of specialties will be more and more needed and perhaps paid regular salaries.

Doctors and Other Doctors

At the anniversary dinner, Dr. Edmund D. Chesebro presided. Ex-Governor Utter of Westerly, R. I., made an address in which he said that the average man had not that fear of the medical man that he once had. The time had come when the profession should inaugurate a movement to bring about the appointment by the court of three men to act as medical experts, not for the defense or for the prosecution, but for the state. Doctors are studying men more and medicine less. Medical men are builders of the Temple of God. The apostle goes *one step further and says condemnation comes to him who* mutilates the temple.

The Natural History of the Medical Man

Rev. A. A. Berle, D.D., Boston: The mystery of the medical profession is just beginning. Experience with 200,000 people who cross the threshold of my church and contact with humanity makes me believe that the mystery has not begun to be penetrated. The Christian Science movement is one of the gravest of menaces, undermining the soundness of thought of this generation. The next generation will reap the harvest. You members of the medical profession ought to speak out against it. Do not be deterred by the cry that you are speaking for your pockets' sake.

IOWA STATE MEDICAL SOCIETY

Fifty-Eighth Annual Session, held at Dubuque, May 19-21, 1909

The officers elected were given in The Journal, May 29, 1909, p. 1766.

President's Address: Stock Taking and Prospect

Dr. C. F. Wahrer, Fort Madison, departed from the usual custom of giving advice for the benefit of an unappreciative public, but suggested that physicians take stock of their present ability to practice medicine under modern methods. He urged them to fit themselves by attending medical societies, postgraduate schools, by acquiring good libraries, and studying collateral and cognate sciences. He urged harmony among physicians and the culture of ethical ideals. He warned of the blighting influence of commercialism, which made nations drunk with its vaunted success, that strangled the Muses to death, and enthroned the Dollar in their place. Dr. Wahrer bewailed the fact that the heroes of science, of the laboratory, and of sanitation, who sacrificed their lives, no less than the soldier on the field of carnage, were not appreciated by the public. Few, if any, monuments were erected to them by a grateful people, and what praise was accorded was scantily and grudgingly given. The works of men like Rush, Virchow, Behring, Pasteur, Koch, Carroll and Reed and a host of others like them, surely compared favorably with those of Napoleon, Grant, Washington, Alexander, Wellington, Dewey, Cæsar and Cromwell; only the one class conserved life, the other destroyed it. He closed by admonishing all physicians to cultivate the friendship of the secular press, to prepare useful literature at times, and have it published by the papers that are read by thousands where medical journals are read by a few. He urged industry in all things relating to medicine because, as a rule, physicians were intellectually lazy. He recommended the course of study outlined by The Journal of the A. M. A., and asked physicians to add enthusiasm to industry. An enthusiasm supported by a united and high-minded profession was the golden key that would unlock the portals of Utopia. Like the prophecy of the seer whose vision was begotten by a high desire, like the poet whose dreams enabled him to see glimpses of Paradise, made bright by the torch of his genius, so Dr. Wahrer caught a far-distant view of the column of smoke by day and the beacon fires of the night, that blazed the paths to the Promised Land.

Pancreatitis

Dr. D. C. Brockman, Ottumwa: The importance of the diseases of the pancreas has not been understood by the average physician; hence many cases of this kind have been overlooked or mistreated for some other disease. The great majority of cases of acute pancreatitis are due to diseases of the bile passages, and can only be remedied by the proper treatment of the original condition. Here, as everywhere else, the first thing to do is to make a diagnosis; when the diagnosis is made and the pathology understood, there will be no question about the line of treatment to pursue. In chronic pancreatitis the majority of cases are either not diagnosed at all, or erroneously diagnosed as cancer, and the patients allowed to die without treatment. Unfortunately, the diagnosis can not be made from the outside; exploratory incision is required, located so that if the trouble is inflammatory, proper curative treatment may be instituted through the same incision. The treatment of either the acute or duodenal type of the disease may be summed up briefly in one word, "drainage" of the bile passage.

Bacterial Vaccines

Dr. Henry Albert, Iowa City, dealt principally with a review of the various conditions in which vaccines have been used for prophylaxis and treatment. He presented statistics to show how preventive inoculation had influenced the incidence and mortality of typhoid fever, and urged particularly the trial of this method in the early part of epidemics of typhoid fever, when a large number of persons were known to have been exposed to infection. He also believed it should be given a trial in treatment of chronic typhoid bacilli carriers. Although autogenous vaccines were given the preference over stock vaccines, the use of the latter was urged when it was difficult to secure autogenous vaccines, as in tuberculosis and chronic gonorrhea, or when it was not desirable to wait for the preparation of the autogenous ones, as in some of the acute conditions. Dr. Albert had little faith in the opsonic index as a routine method of controlling the size of the dose and frequency of treatment. He urged that careful studies be made to determine if the symptoms of intolerance recognized in connection with tuberculin therapy do not find greater parallelism in connection with the newer bacterial therapy than has heretofore been believed to be the case.

Oration on Medicine: The Old and the New Medicine

Dr. G. E. Crawford, Cedar Rapids: The title of this paper assumes that there is in our profession of medicine that which is old and that which is new. When we undertake to study the history of almost any subject we are impressed with the fact that much that is supposed to be new is in reality old, and much that is old is new, in that we see it with a new understanding and association. An old science may be said to have become new when it comes to be based on newly discovered principles which are fundamental in character. The foundations of the new medicine are metabolism and immunity. In the light of these discoveries, diseases divide themselves essentially into two classes: derangements of metabolism and infections. With this view of metabolism, and the important part the pituitary-adrenal-thyroid system, with the internal secretions, performs in these most intricate processes, it is the problem of the new medicine to assist Nature in maintaining the equilibrium of these vital movements. In infections, "immunizing medication is the foundation of rational therapeutics"—a therapeutics which can govern the efficiency of the defensive mechanism of the body. The old medicine is the collaborated empiricism of the ages The new medicine is the dawn of scientific rationalism. We are only at the beginning. What we need is a constructive therapeutics in accordance with these new principles. While we as yet are obliged to practice largely in the old, we think in the new, and look forward to the time when all of these processes will be as completely under our control as some of them are now.

Oration on Surgery: The Seamy Side of Surgery

Dr. G. G. Cottam, Rock Rapids, analyzed his subject both from the scientific and economic standpoints. He dwelt on the various accidents, complications and other untoward sequels of operation, emphasizing the deplorable lack of adequate training and fitness in many who undertake to do major surgery, and the present-day tendency toward ultra-specialism, which makes a surgeon little else than a skilled technician. The surgeon should never cease to be a practical pathologist or lose his contact with general medical diagnosis, since so many surgical conditions merge into the medical and *vice versa*. These considerations apply especially to surgeons in an agricultural state like Iowa, where the peculiarities of geographical distribution of population over a large area prevent the constant close association of surgeon, physician and pathologist. He deprecated the prevalent leaning to lowering of professional standards in surgery, as shown by various commercialistic tendencies, for which there seems to be no adequate remedy save enlightenment of the public for the present and elevation of general professional ideas for the future.

Dysmenorrhea

Dr. Carl F. Wahrer, Fort Madison: The unsatisfactory results of treatment in dysmenorrhea are usually in those cases of nervous origin in young women. When definitely associated with pathologic changes in the pelvis, dysmenorrhea is easily relieved. The conditions most often found accompanying it are retrodisplacements in nulliparæ, chronic gonorrheal salpingitis and fibroid tumors of the uterus. Retrodisplacement is not so apt to cause dysmenorrhea in women who have borne children. From one-third to one-half of all cases seen in general practice are in young girls who have no abnormal changes in the pelvis. These cases are due to hysteria and neurasthenia, and should be treated as such. Dilatation and curettement are not justifiable in these patients, except in a small few in whom the pain is almost entirely relieved when the flow begins.

DISCUSSION

Dr. M. J. Kenefick, Algona: This is one of the most practical subjects that could be brought up, for dysmenorrhea is a very common complaint and one that gives us a great deal of annoyance in the treatment. If we submit some young women suffering from dysmenorrhea to pelvic examination and direct their attention to the pelvic organs, we are very likely to get them into a state of hypochondria, and then they will read the "patent-medicine" literature and take Lydia Pinkham's compound, and go on from bad to worse.

Dr. G. H. Skinner, Cedar Rapids: The neuralgic forms of dysmenorrhea can not be treated or benefited by any plan of surgical procedure. It may be relieved in a great many cases by repeated curettage and dilatation, but I believe that more can be done with what is called obstructed dysmenorrhea and neuralgic dysmenorrhea by hygienic treatment, change of climate, etc., than by all other means combined. Two-thirds of the graduates of our high schools have dysmenorrhea, and with a great many it is hemorrhagic. The less one meddles with the pelvic organs the better it will be.

Dr. J. W. Osborn, Des Moines: I think medicinal treatment is neglected, and that if we would study our therapeutics as well as our patients, many girls now subjected to dilatation and curettage would not require it.

(To be continued)

AMERICAN PEDIATRIC SOCIETY

Annual Meeting, held at Lenox, Mass., May 27-28, 1909

Considerations Concerning Scarlet Fever, Rubella Scarlatinosa and Duke's Disease

(Concluded from page 72)

Dr. D. J. Milton Miller, Atlantic City, thought the recognition of a new exanthem would be very confusing and that it had not been proved. German measles he considered a rare disease. Practitioners should be impressed with the fact that scarlet fever may occur with the mildest symptoms and he advised treating all these cases as scarlet fever until desquamation occurred, and called attention to the mildness of scarlet fever at the present day. He thought this explained the condition of rubella scarlatinosa. He desired to show that there was a disease which was a scarlatinous rubella which so closely resembled scarlet fever that in isolated cases *it was impossible to make a diagnosis* and that the cases should be treated as scarlet fever for the protection of the public.

DISCUSSION

Dr. J. P. Crozer Griffith, Philadelphia, had seen cases of scarlet fever without the strawberry tongue and thought that measles occurred more rarely the second time than does scarlet fever.

Dr. Henry Koplik, New York, thought second attacks of scarlet fever possible though rare and referred to recorded cases of measles of a very mild nature. He agreed with Dr. Miller that in practice it was better to assume that a case was scarlet fever no matter how mild the eruption.

Dr. Henry Shaw, Albany, referred to an epidemic of mild scarlet fever at Round Lake in which it had not been deemed necessary to quarantine. He had recently seen a boy of 15 with a very acute rash and found that he had had four other attacks since going to school in each of which he had been quarantined.

Dr. Samuel S. Adams, Washington, thought it rare that a second attack of scarlet fever occurred in the same individual although the history would often seem to indicate it.

Dr. R. G. Freeman, New York, thought that in a questionable diagnosis between scarlet fever and German measles it was best to assume that it was scarlet fever; he had seen an epidemic with very slight symptoms followed by bad complications.

Dr. Thomas Morgan Rotch, Boston, had never seen a recurrent scarlet fever and felt that it must be quite rare.

Dr. Isaac Abt, Chicago, had diagnosed scarlet fever twice in the same individual. He was in accord with Dr. Miller that the cases which closely resemble scarlet fever had better be so called.

Dr. T. S. Southworth, New York, thought all such cases should be quarantined until the physician could be absolutely sure.

Dr. Alfred Hand, Philadelphia, agreed with Dr. Miller and did not attach much importance to the absence of desquamation in private practice.

Dr. J. P. Crozer Griffith, Philadelphia, had seen two attacks of scarlet fever in the same patient without doubt.

The Stools of the New-Born and Their Signficance

Dr. Thomas S. Southworth, New York: I disagree with the present day teaching that for a period varying from 3 to 5 days the meconium gives way to yellow or orange yellow stools and that these are of a uniform homogeneous semisolid consistence and that this is the normal stool and that any departure from this classical type indicates a disturbance of digestion on the part of the infant. Statistics of 50 infants successfully breast-fed were given from which he concluded that the clasical orange-yellow, semisolid stools appear in the majority of infants later than is usually stated. Considerable variation in the color and consistency of the stools of newborn infants are entirely compatible with regular gains in weight. Such variations in stools for ten days or more, even with slow or irregular gains in weight, give no certain indications that successful breast feeding can not be carried on. Whatever the character of the stools weaning is not indicated if the infant is gaining steadily in weight.

DISCUSSION

Dr. J. L. Morse, Boston, thought the variations in the stools often depended on changes in the breast milk and on the relation between the amount of fat and the amount of proteids.

Dr. J. P. Crozer Griffith, Philadelphia, agreed with Dr. Southworth that the infant's general condition of health and gain is of more importance than the character of the stools. Change in the stools might give a warning, but was not an indication to stop the feeding.

Dr. R. G. Freeman, New York, *was also in* accord with Dr. Southworth and thought if the baby were gaining in weight the matter of change in the stools could be ignored.

The Urine in the Gastrointestinal Diseases of Infancy

Dr. John Lovett Morse, Boston, reported that 300 cases were examined as to the frequency of albuminuria in these conditions, and he concluded that albuminuria was found in 8 or 10 per cent. of babies ill with various diseases of the gastrointestinal tract; more often in the acute than in the chronic cases. In the chronic cases, there was no relation between the albuminuria and the symptomatology. The presence of albuminuria in an individual case did not materially affect the prognosis.

DISCUSSION

Dr. Henry Koplik, New York, agreed with Dr. Morse and thought the condition simply one of the manifestations of the general toxemia.

Dr. Miller, Atlantic City, had observed that in cases of chronic diarrhea seen in the hospital there had been the presence of a small amount of albumin without any apparent nephritis in the course of the disease. He thought it was of significance only as showing the intensity of the toxemia.

The Irritating Effects of Cathartic Drugs on the Intestinal Mucosa

Dr. Isaac A. Abt, Chicago: Experiments were made to determine the irritating effects of the common cathartics on the intestinal mucosa of infants. The benzidin test was used for blood. Calomel, magnesium sulphate and castor oil were the cathartics given. Both blood and mucus were shown in the stools after several days. Calomel seemed to produce the greatest amount of irritation and castor oil the least.

Abnormal Development of the Bones

Dr. Blackadder, Montreal, exhibited a sketch of a case of great abnormal development of the large bones, with *x*-ray plates showing peculiar arching of the bones. The circumference of each wrist at the joint was 3½ inches and over the swelling 4¾ inches. The length of the foot was 5 inches. The child weighed 24 pounds and was 3 years old.

Soy Beans in Infant Feeding; Preliminary Report

Dr. John Ruhräh, Baltimore, thought soy beans would be of advantage in certain kinds of feeding, as in diabetes. These beans were used very much in China and Japan. They contained less starch than any other diabetic food, furnished a food easily digested and easily assimilated. They could be used in marasmus and summer disorders and diarrheas.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting held at Philadelphia, June 3-5, 1909

(Continued from page 70)

The Fecal Origin of Some Forms of Postoperative Tetanus and Its Prophylaxis by Proper Dietetic or Culinary Measure

Dr. Rudolph Matas, New Orleans, drew conclusions which may be summarized practically as follows: Postoperative deaths from this form of tetanus occur in seemingly clean surgical cases. The origin and regional distribution of accidental and postoperative tetanus in the concealed parts of the body (protected from surface exposure) has not been sufficiently investigated or recognized, certainly not sufficiently insisted on in accounting for postoperative deaths in which the rules of surgical asepsis have been apparently well observed. Experience has shown that while *the risk of* tetanus infection can be absolutely eliminated in all operations on sterile tissues in which a rigorous postoperative asepsis can be maintained until healing has occurred, this liability can not be removed in those regions in which postoperative asepsis can not be secured: for example, the extremities and the anorectal region. The occasional postoperative deaths, which occur from time to time, are not dependent on defects of technic or contaminated material, *e. g.*, imperfectly sterilized catgut, but to other sources of infection outside of, and apart from, the operation.

This hitherto unrecognized or disregarded factor in the causation of postoperative tetanus is the direct contamination of the alimentary canal and its contents with living tetanus bacilli and their spores, swallowed in raw, uncooked vegetables, berries and other fruits which are cultivated in fertilized or manured, *i. e.*, tetanized soil. It may be a mere coincidence, but it is a fact, that in all the cases of postoperative tetanus occurring after operations in regions liable to fecal contact, which I have investigated (two in my own practice), the patients had eaten copiously of uncooked vegetables—celery, lettuce, chicory, watercress, cabbage (cold slaw), radishes, turnips, carrots, tomatoes and other green vegetables, strawberries, blackberries and other berries and fruits which are grown in the soil or brought in contact with it. The tetanus bacillus and its spores survive the passage through the intestinal canal of the domesticated animals, especially the herbivorous horse and cow, and the dung of these animals is a perpetual culture medium for the tetanus bacillus, swallowed constantly with the grass of the pasture and the fodder of the stable; not only are the bacilli ejected alive, but their virulence and activity are probably intensified by their temporary residence in the favorable conditions of the lower intestinal tract. Of normal men, 5 per cent. harbor the tetanus bacillus or its spores in an active state in the intestinal canal, and of hostlers, dairymen, etc., 20 per cent. In accordance with the preceding statements, and my convictions, I have taught and insisted that no patient should be brought to operation without antitetanic preparation, whenever an operation is to be performed on parts in which fecal contamination is unavoidable (hemorrhoids, fissure, fistula, stricture, etc.). This antitetanic preparation is very simple and consists of: (a) purgation three days before the operation; (b) the suppression of all raw, uncooked food, especially green vegetables, berries and other fruit for the same period of time before the operation. In emergencies, when dietetic preparation is impossible, 10 c.c. of tetanus antitoxin are injected subcutaneously at the time of the operation, while the patient is still under the anesthetic.

DISCUSSION

Dr. John E. Owens, Chicago: A few years ago I saw a woman, past middle age, suffering from tetanus. She had no appearance of a wound; but two or three days before consulting me she had a tooth pulled. Before the attack of tetanus began she had been eating celery, of which she was very fond, and I have no doubt the attack resulted from eating the uncooked celery.

Dr. Nathan Jacobson, Syracuse, N. Y.: I recall one case in which tetanus developed after an operation for hemorrhoids, which was performed by a so-called rectal specialist, the so-called injection method having been resorted to. It was thought the tetanus was due to carbolic acid or to the ligature material that was used. In other cases of tetanus I have seen following operations on the anorectal region, trismus was a late manifestation.

Dr. W. H. Hutchings, Detroit: I have treated three cases of postoperative tetanus. In one the tetanus followed an abortion. In the other tetanus followed injuries to the hand. In a third tetanus followed an apparently clean operation for suprapubic shortening of the round ligaments. It developed twelve days after operation: but the wound healed by primary intention. All three patients recovered.

Dr. Joseph Ransohoff, Cincinnati: A few years ago I did considerable anorectal work, but only saw one case of postoperative tetanus, and that was in the practice of a colleague. The patient had been curetted, and fuming nitric acid introduced into the uterus. Acute tetanus developed; but there was not trismus, but an open mouth, a symptom I had not seen before. In every case the alimentary tract should be thoroughly emptied.

Dr. Maurice H. Richardson, Boston: I have never seen a case of postoperative tetanus. It must be very rare when we consider infections through the alimentary canal, as acute appendicitis cases, enterostomies, and other operations by which the large intestine is opened.

Dr. Arthur Dean Bevan, Chicago: Is it not possible that tetanus varies considerably in different localities?

Dr. Arpad G. Gerster, New York: In thirty-two years of surgical practice in two hospitals I have not seen a single instance of postoperative tetanus.

Dr. Beverly MacMonagle, San Francisco: In an experience extending over thirty cars I have seen but one case of tetanus following operation. In this case a trachelorrhaphy was done; catgut was used, and I have no doubt infection came from the catgut. I have operated in the houses of Italians and Spanish, where they have a horse or a pig, or cow adjoining their rooms, yet I have not had a case of infection from the tetanus bacillus in any of those bad surroundings.

Dr. F. H. Gerrish, Portland, Me.: Twenty-five years ago I had in close proximity to each other two cases of postoperative tetanus. One patient was a child in the teens, and tetanus followed an operation for necrosis of the tibia; in the other patient tetanus developed after ligation of hemorrhoids. Tetanus seems to come in waves. In the year these two cases occurred tetanus was prevalent. Three years ago in the hospital with which I am connected there were sixteen cases of tetanus in the course of eighteen months, and there is still doubt as to the occasion for those cases.

Dr. J. Collins Warren, Boston: It ought to be said in this discussion that tetanus is to a certain extent a tropical disease; that latitude has some influence on the growth of the bacillus of tetanus, and that in the tropics it grows more luxuriantly than in temperate zones.

Dr. S. Stillman, San Francisco: I can see how there is danger of tetanus developing after ligature operations for hemorrhoids. That was the experience of Lane in the navy on the Pacific Coast, at Panama, and in the early days in San Francisco. The danger was a real one at that time, and his experience was extensive in those days. Tetanus also occurred in my work a number of times, but no particular precautions were taken to guard against it developing.

Dr. Albert Vander Veer, Albany, N. Y.: My experience does not bring to my mind a single case of tetanus in connection with operations on the rectum. The cases of tetanus I saw in army practice generally resulted from shell wounds in which a great deal of dirt was carried into the wounds.

Dr. George E. Brewer, New York: I see no objection to using serum as a prophylactic in these cases. It is used at the Roosevelt Hospital in all cases of injuries to the hands and feet. Seven years ago sixteen cases of tetanus occurred in about two months in the summer following injuries of the hands and feet, and after that it was made a definite rule to give such patients an immunizing dose of antitoxin, and since that practice has been adopted no case of tetanus has developed there.

Dr. Dudley P. Allen, Cleveland, Ohio: There have been a number of cases of tetanus at the Lakeside Hospital in Cleveland from the use of toy pistols. In every case in which the wound was opened early and packed the patient recovered. The patients whose wounds were not opened early and packed died.

Dr. C. B. G. De Nancrede, Ann Arbor: There are certain sections of the country where tetanus is unknown, while in others a few miles distant the disease is rife; at least, the germs of the disease can be found in the soil. For the past eleven years in my lectures I have warned my students about the dangers of unripe fruit as a possible source of tetanus.

Dr. Robert G. Le Conte, Philadelphia: Fifteen years ago tetanus developed in a patient operated on by a colleague in this city. The disease developed on the eighth day following an operation on the perineum, and resulted in death. At the Pennsylvania Hospital there formerly were a number of cases of tetanus, but since it has been made a rule to give patients with injuries of the hands and feet, or patients with suspicious looking wounds, an immunizing dose of the antitetanic serum tetanus has not developed.

Dr. R. Matas: At the Charity Hospital, New Orleans, there is no case of railroad injury that is contaminated with dirt in which the patient is not given antitoxin or antitetanic serum. Nearer the tropics the prevalence of tetanus increases. It is less prevalent in northern than southern latitudes.

(*To be continued*)

Medicolegal

Varicose Veins from Contusion—Care of Wound—Ordering of Physical Examinations

The Supreme Court of Nevada says, in the personal injury case of Murphy vs. Southern Pacific Company, that the defendant company contended that the only injury sustained by the plaintiff as the result of the collision he was in was an inconsequential bruise on his left leg, which, with ordinary care and attention, would have healed without any appreciable injury, and that the varicose veins from which he was suffering were brought on by septic poisoning that resulted from his lack of care in the interim between the time of the accident and the time of the trial, etc. Five gentlemen of the medical profession were examined as witnesses, from all of whom expert testimony was exacted on the causes likely to produce varicose veins, and as to whether or not the varicosity of the veins from which the plaintiff was suffering was directly attributable to the accident or to the septic poisoning, or neglect of the plaintiff after the accident. From the testimony of one eminent physician, whose testimony was not disputed by any of the other medical experts called in this case, it appeared that varicosity could be produced from pressure on the veins, and evidently the jury, in considering the accident, after hearing all of this testimony, concluded that the varicosity from which the plaintiff was suffering was due directly to the contusion which resulted to him at the time of the accident, and not from any negligence on his part.

Conceding that the plaintiff, immediately after the accident, did not take the best of care and did not secure the best medical assistance in the treatment of the wound, it did not follow that he was to be deprived of damages because of his failure to secure attention to the degree of care named. Evidence was disclosed that he used his best judgment in caring for the wound received at the time, and that he gave it such medical attention as he believed it was entitled to. Where there is such a disagreement of medical opinion as to what might cause varicosity of the veins, it would be more than presumption to expect a common layman to believe that from a contusion the serious consequences which he was later suffering could follow. The evidence preponderated to the effect that at the the time of the accident the plaintiff was not afflicted with the malady affecting the limb in question, but it did appear that shortly thereafter varicose veins appeared and caused the plaintiff the intense suffering and injury of which he was complaining. Every man is differently constituted physically, and what might affect one individual might not have any damaging effect on the other. And so the jury in the present case, after listening to the medical testimony introduced, and all the evidence and facts adduced, believed, in their judgment, that these varicose veins were directly attributable to the accident occasioned by the negligence of the defendant.

Innumerable authorities can be produced where persons, through neglect, have brought on different diseases, and in many cases death, which are manifestly not attributable to an accident. But in the present case the court believes the evidence justified a verdict of the jury believing that varicosity could and did affect the plaintiff as a direct result of the injury complained of. Every case of this character, as has been well said on numerous occasions by courts considering questions such as the one under discussion, must be governed and controlled by the particular fact of each case.

With regard to compelling the plaintiff to submit to a physical examination by physicians, the court thinks that the reasons and principles advanced in those opinions which sustain the power of the trial court to order a physical examination in cases of this character, and which repose such power in the sound discretion of the trial court, to be sound in law and in furtherance of the ends of justice. The purpose of allowing this examination is to prevent a defendant from being subjected to fraudulent, assumed and dishonest claims, and the court believes that the defendant should be protected in every way from any imposition which may be perpetrated by plaintiffs in suits of this character against them. But there is a limit to everything, and unless this power, which is vested in the sound discretion of a trial court for the purpose of promoting the ends of justice, is so reposed, the court can see where prejudicial errors could happen to the plaintiff by the evidence of a defendant, if the latter could and had the power to compel limitless examinations in the hope of securing some medical expert who might agree with some theory, character of disease, or injury contended for by the defendant, and where this power, which is for the purpose solely of ascertaining the truth, could be so distorted as to prove an engine of destruction to the plaintiffs' rights in the hands of unscrupulous or dishonest defendants.

A judgment for $7,500 in the plaintiff's favor in this case is affirmed.

When Testimony of Physician and Patient Differs as to Pain

The Supreme Court of Washington says, in the personal injury case of Hoyt vs. Independent Asphalt Paving Co., that if a witness testifies that she experiences pain, and a physician testifies that there is no condition existing which would or could produce pain, and that, therefore, she can not be experiencing pain, the testimony would be conflicting, and the jury would be warranted in believing the witness who testified to experiencing the pain. But when she testifies that she experiences pain, and undertakes to give the cause of the pain, or the cause of certain painful conditions, and introduces expert scientific witnesses to corroborate her, and, instead of corroborating her, they flatly contradict her, and swear positively that the cause to which she attributes her injury and pain is an impossible cause, and testify as to what the actual cause is—it would seem that, if there is anything at all in medical science, the proof would be conclusive that the cause of the admitted condition was not the cause to which the condition was attributed by the suffering person.

Confined Constantly to the House

The Supreme Court of Nebraska holds, in the case of Breil vs. Claus Groth Plattsdutchen Vereen, that it cannot be said, within the meaning of an insurance contract for sick benefits, that an assured is not confined "constantly to the house" during an illness characterized by recurring periods of severity, although at intervals he may occasionally step into his yard, or make visits to his physician, or other short and unusual trips, the assured at all times being unable to resume the ordinary duties or pleasures of life.

No Fixed Measure of Damages for Pain

The Supreme Court of Nebraska holds, in the personal injury case of Bayard vs. City of Franklin, that there is no fixed rule for the measure of damages occasioned by pain. The amount is to be determined by the circumstances of each case, and is a matter peculiarly within the province of the jury.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

June 26

1 *So-Called Cardiac Epilepsy. R. C [illegible]
2 *Two Unusually Severe Cases of [illegible] Caused by Profound Toxemia: [illegible] York.
3 Baldness. J. O. Cobb, Milwaukee.
4 Indications for Operation in Acute Mastoiditis. E. Danziger, New York.
5 *Congenital Heart Disease. W. N. Bradley, Philadelphia.
6 *Severe Autointoxication with Acetonuria and Extreme Bradycardia. D. A. Singer, New York.
7 Pharmacology. C. A. Hofer, Philadelphia.
8 No Free Hydrochloric Acid in the Stomach. R. F. Faulkner, Pittsburg.

1. **Cardiac Epilepsy.**—Newton reports five cases illustrating cardiac neuroses or cardiac epilepsy. In one case there were distinct spasms of angina pectoris which were abundantly explained by the autopsy findings. As there was no postmortem examination of the brain, the opportunity was lost of ascertaining whether there was any change in the cerebral structures which might account for these seizures, and for the slight paralyses. In two cases the angina succeeded the epileptic

attacks, and there can be little doubt that they may have been due to the same cause. In a fourth case it seems quite likely that angina may supervene later. The fifth case, perhaps, ought not to be called epileptoid at all. Only one of the cases cited was remarkable for its persistent slow pulse. Numbers of cases of slow pulse unaccompanied by any symptoms have been reported in people apparently in excellent health, so that when bradycardia is coincident with epilepsy, the conjunction may be purely accidental. In fact, a number of good authorities, probably a majority of observers, maintain the same proposition with regard to the coincidence of cardiac disease and epilepsy. Still, Newton believes that there are cases in which the condition of the heart is the cause of the epileptic attacks.

2. **Myocarditis in Children.**—Fisher says that the outcome of a case of myocarditis depends on persistence in the nutrition of the body, aided by carefully selected cardiac and vasomotor stimulants. Fresh air and sunshine are invaluable as aids in the proper establishment of metabolism.

5. **Congenital Heart Disease.**—In the case reported by Bradley the foramen ovale was patulous and there was almost complete stenosis of the pulmonary artery. The ductus arteriosus was patulous.

6. **Severe Autointoxication with Acetonuria and Bradycardia.**—Singer's case presents the following points of interest: 1. Acetonuria. 2. Bradycardia. The pulse registered from 4 to 8 to the minute and was synchronous with the heart beat. This shows the extreme grade of the intoxication of the inhibitory vital centers and of the myocardial degeneration. 3. Leucocytosis of 22,000. 4. Two separate and distinct toxemias; on the one hand, a clear history of chronic nicotine poisoning, and, on the other, superimposed, an acute infection justified by the history and symptoms, especially the acetonuria, indicanuria, anemia and convulsions.

Medical Record, New York

June 26

9 Tuberculosis of the Lungs with Remarks on Microscopic Diagnosis. L. M. Hurd, and J. Wright, New York.
10 *Use of Atropin Sulphate and Atropin Methylbromid in Diabetes Mellitus. J. Rudisch, New York.
11 Compensatory Albuminuria. H. Stern, New York.
12 Treatment of Pott's Disease at the Sea Breeze Hospital. L. W. Ely, New York.
13 *Combined Operation for the Radical Cure of Inguinal Hernia and Appendicitis. A. H. Harrigan, New York.
14 Dermatobia Noxialis Infection. J. D. Manget, Atlanta, Ga.
15 Practical Points in Treatment of Fracture of the Lower End of the Radius. E. C. Beck, New York.
16 Thiosinamin in Otology. F. M. Fernandez, Havana.

10. **Atropin in Diabetes Mellitus.**—Rudisch had administered atropin in diabetes in the form of the methylbromid and the sulphate. As the initial dose of the methylbromid he has given gr. 2/15 t. i. d. to adults, gradually increasing this by gr. 1/15 until gr. 8/15 t. i. d. are being taken. In one case three grains were given daily over a short period with no other toxic effect than dryness of the throat. The initial dose of atropin sulphate should be gr. 1/150 t. i. d., that may be gradually increased to gr. 1/20 t. i. d. Children require a dosage proportionate to their age. It is noteworthy that these unusually large amounts of atropin are well tolerated, provided the initial dose is small and the increase gradual. It is not necessary to attain the maximum dose in the majority of cases, however, much smaller amounts often causing the glycosuria to disappear. With the appearance of the first toxic symptom, usually a marked dryness of the throat, the atropin was either stopped entirely, or, more often, the attempt to increase the dosage was temporarily abandoned. It was always possible to resume the drug after a period of rest. The action of atropin may be summed up under the following heads: (1) Reduction in the amount of sugar excreted; (2) increase in carbohydrate tolerance.

13. **Combined Operation for Inguinal Hernia and Appendicitis.**—Harrigan reports a case in which he employed the Torek operation with a slight immaterial modification.

Boston Medical and Surgical Journal

June 3

17 Extensive Calcification of Pleuritic Exudation Causing Curvature of the Spine. T. Dwight, Boston.
18 Etiology and Diagnosis of Iritis. P. H. Thompson, Boston.
19 Chronic Glomerulo-Nephritis in which Double Decapsulation was Performed. E. Garceau, Boston.
20 *Placenta Prævia. N. R. Mason, and J. T. Williams, Boston.
21 Exercise in Pulmonary Tuberculosis. B. S. Putts, Pittsburg.

June 17

22 *Conquest of the Tropics for the White Race. W. C. Gorgas, Ancon, Canal Zone.
23 *Diagnosis and Prognosis of Gallstone Disease from the Point of View of the Surgeon. M. H. Richardson, Boston.
24 Placing out of High-Grade Imbecile Girls. W. N. Bullard, Boston.
25 Symptom-Complex of a Series of Exanthematous Diseases, or is there a New Contagious Exanthem? J. W. Watson, South Braintree, Mass.

20. **Placenta Prævia.**—Mason and Williams have gone over the records of the Boston Lying-in Hospital for the past thirty-five years with the object of studying placenta prævia. The authors found that among 32,453 out-patients during a period of twenty-seven years, there was about one case of placenta prævia to every 700 pregnancies. The most important results of their investigation of the hospital records were those in regard to the treatment of the condition. After briefly outlining the histories of the fatal cases, the authors sum up their conclusions as follows:

> 1. Improvement in the results of the treatment of placenta prævia is to be expected not so much from any particular method of delivery as from early delivery.
>
> 2. The advantages of early delivery are as great for the child as for the mother.
>
> 3. Every patient should be instructed and enabled to notify a competent obstetrician at once of any uterine hemorrhage during pregnancy.
>
> 4. Any hemorrhage during the second half of pregnancy demands an immediate investigation of the contents of the lower uterine segment.
>
> 5. A routine vaginal examination should be made on every patient at the end of the seventh month.
>
> 6. In multiparæ, rapid dilatation, followed by version and extraction, offers a safe and satisfactory method for both mother and child.
>
> 7. In primiparæ, at the beginning of hemorrhage, while still in good condition. Cesarean section should be the operation of choice.

22. Published in The Journal, June 19, 1909, p. 1967.

23. **Gallstone Disease.**—This paper discusses very fully the diagnosis and the outlook of gallstone disease as contemplated by a surgeon after a thousand observations. Richardson says that the diagnosis of gallstones, though it presents many difficulties, is essentially easy and successful. The exact location of gallstones in the biliary tract is a matter of greater difficulty, but on that exact location almost wholly depends the prognosis. The diagnosis must be made positively before an operation should be undertaken—unless a diagnosis is impossible and failure to operate means increased suffering and ill-health, or death and disability, then an exploratory operation may be done.

Kentucky Medical Journal, Bowling Green

June 1

26 Abortions. W. R. Burr, Auburn, Ky.
27 Idem. C. M. Brown, Price's Mill, Ky.
28 Mode of Entrance and Localization of Infection. J. A. Stucky. Lexington.
29 Am I My Brother's Keeper? J. G. Carpenter, Stanford.
30 Justification of Surgery in Connection with a General Practice. C. P. Price,
31 Postnasal Adenoids, Diagnosis and Treatment. O. B.
32 Disease of Gall Bladder and Gall Ducts. J. C. B. Foster, Monterey.
33 Renal Calculi: Pyonephrosis; Report of a Case. A. W. Davis, Mortons' Gap, Ky.
34 Iron. T. C. Nichols, Morgan.
35 Ascites. S. R. York, Centre.
36 Factors which Influence the Prognosis of Chronic Valvular Disease of the Heart. T. O. Meredith, Burgin.
37 Diagnostic Value of Pain in Diseases of Abdominal and Thoracic Viscera. D. H. Erkeletian, Hopkinsville.
38 Acute Nephritis; Report of a Case. D. G. Simmons, Adairville.
39 Expectorants. S. M. Hopkins, Demossville.
40 Treatment of Gonorrhea and its Complications. J. W. Rickers, Cincinnati.
41 Acute Bronchopneumonia in Children. J. C. McCreary, Cave City.
42 Management of a Woman During Pregnancy and Labor. J. N. Bailey, Fredonia.
43 Fracture of Upper Third of Femur. J. T. Green, Leitchfield.
44 Arthritis Deformans. P. A. Hart, Murray.
45 Fracture in Children Under Ten Years of Age. A. D. Willmoth, Louisville.

Northwestern Lancet, Minneapolis

June 1

46 Diphtheria. E. J. Clomens, Aberdeen, S. D.
47 Conservatism in Traumatic Surgery. W. Courtney, Brainerd, Minn.
48 Postoperative Treatment. G. R. Curran, Mankato, Minn.
49 Acute Gangrenous Appendicitis. C. J. Holman, Mankato, Minn.

American Journal of Medical Sciences, Philadelphia

June

50 *Short Duration Typhoid Fever. W. Coleman, New York.
51 Heart Failure in Infectious Diseases: Prevention and Successful Management. W. P. Worster, New York.
52 Symptoms of Descending Thoracic Aneurism. A. W. Hewlett, Ann Arbor, Mich, and W. R. P. Clark, San Francisco.
53 *Reversion Theory and Classification of Goiter. W. C. MacCarty, Rochester, Minn.
54 *Nature, Diagnosis and Treatment of Metabolic Osteoarthritis. P. W. Nathan, New York.
55 *Primary Splenomegaly of Gaucher Type. N. E. Brill, F. S. Mandlebaum, and E. Libman, New York.
56 *Primary Carcinoma of the Lungs. A. L. Garbat, New York.
57 Detection of β-Oxybutyric Acid in the Urine. T. S. Hart, New York.
58 *Effect of Certain So-Called Milk Modifiers on the Gastric Digestion of Infants. T. W. Clarke, New York.
59 Treatment of Boils. G. T. Jackson, New York.

50. Abstracted in The Journal, Feb. 13, 1909, p. 581.

53. **Classification of Goiter.**—MacCarty has been struck by the variance of the opinions and also the variance in the methods of attack in the study of the etiology. He has come to the conclusion that the process of goiter may be a process *of reversion of the thyroid gland to some former function.* Hyperthyroidism is a toxemia the result of absorption of the products of the hyperactive thyroid. The stimulus causing the hyperactivity may be the same that stimulated the thyroid to activity in primitive man. This stimulus was then probably a normal stimulus to the gland, just as we have normal stimuli for glandular activity in man in his present condition. This stimulus may still be present in the food or water, formed through some process in the intestine or in the metabolism of the body, or it may exist in the air. The types of goiter are probably not types at all, but stages in a general process. MacCarty suggests the following classification of goiter on a pathologic basis: (a) Cystic goiter (thyroidea cystica); (b) hypertrophic parenchymatous goiter (thyroidea parenchymatosa hypertrophica; (c) papillary cystic goiter (thyroidea cystica papillare); (d) hypertrophic fetal thyroid (thyroidea fœtalis hypertrophica; (e) fetal adenoma of the thyroid (thyroidea fœtalis adenomatosa). Hyperthyroidism always occurs in *b* and *c*, and may occur in *c*.

54. **Metabolic Osteoarthritis.**—Nathan believes that metabolic osteoarthritis is a distinct pathologic condition of the joints, which can easily be recognized clinically; it is not, however, a primary joint disease causing secondary general symptoms; nor is a uniform specific general disease responsible for it; it occurs in connection with a number of distinct clinical conditions, some of which are known to be specific diseases; the joint disease is not due directly to the conditions with which it is associated, but it is due to their deleterious influence on the general nutrition.

How the metabolism is affected or what changes it undergoes has not been determined. What is certain, however, is that the changes in the joint are passive: simply an atrophy which can only be induced by inadequacy of the nutrition. For these reasons, the joint disease here discussed has been grouped with the nutritive or trophic joint diseases. In order to distinguish it from those conditions which cause local changes only, it has been termed metabolic, and to distinguish it from the rather uncommon metabolic conditions which cause synovial changes only, it has been called osteoarthritis. Thus, metabolic osteoarthritis is a chronic osteoarthritis due *to a vice of the metabolism caused by a number of conditions,* organic or functional; insidious in onset; symmetrically involving new joints toward the trunk, it gradually leads to more or less deformation and crippling. The x-rays show circumscribed bone rarefication in the early stages, and a more or less complete absorption of the epiphyses in the later stages, but never proliferation or bony ankylosis. Pathologically, beginning in the bone, there is a pure atrophic degeneration of all the joint structures. Nathan has had uniformly good results with the use of the thymus gland extract in these cases. His method of proceeding is as follows: The thymus is given immediately, beginning with two 5-grain tablets, thrice daily. In two weeks the dose is increased to three tablets, and after a few months three tablets, four times a day, are given. The patient is kept at rest until all symptoms of active joint disease have subsided. Then begin passive motion in all the affected joints. This is carefully done at first and gradually increased until one has an arc of free motion which is only limited by the shortened tendons. Massage, which is often painful, is unnecessary, and may even be harmful. The next step is to get the patient on his feet. This is sometimes a tedious affair, for patients, particularly adults, are timid at trusting themselves at first, but by persistence, *the patient eventually gains confidence, and finally* is able to get around as well as the deformity in the lower extremity will permit. As soon as the patient is able to be on his feet or to use his joints without the appearance of joint irritation, all contracted tissues are divided with the *tenotome* and the deformity is corrected. This, of course, requires immobilization for three or four weeks, but with light plaster-of-Paris bandages it does not preclude the use of the lower extremities. A few days after the operation the patient is again induced to be about, and he is usually able to hobble around quite comfortably with crutches or a cane until the bandages are removed. With such treatment all but the most severe cases, which have existed for a long time, can be improved definitely. Often the patients recover sufficiently to be about and attend to their avocations. The treatment, however, requires patience, a definite knowledge of the condition, and time; without these only in the very mild cases can one be successful.

55. **Primary Splenomegaly.**—Brill, Mandlebaum and Libman claim that splenomegaly (Gaucher type) is a distinct disease, starting in early life, often affecting several members of a family, and running a chronic course. It may be recognized by a great enlargement of the spleen, which precedes a similar enlargement of the liver, and is unaccompanied by jaundice or ascites; by the discoloration of the skin, especially where exposed to light; and by the absence in the blood of any characteristic findings. The disease has none of the characteristics of malignancy, and usually terminates as the result of an intercurrent affection. The organs affected are the spleen, liver, lymph nodes and bone marrow. Histologically, these organs show the presence of large cells with small nuclei and a peculiar hyaline cytoplasm, which arise from the endothelium or normal reticulum, and the presence of pigment containing iron. The etiology is unknown, though a peculiar susceptibility of the endothelium or reticulum of the hematopoietic apparatus to some unknown toxic agent is most likely present. There is nothing in the authors' two cases even suggesting tuberculosis. They say that when found in cases of this disease, it must be considered as a superimposed process.

56. **Primary Carcinoma of the Lungs.**—Garbat reports one case, a study of which has convinced him that while pulmonary alveoli and bronchial mucous membrane show no neoplastic tendency, there is conclusive evidence that this primary carcinoma of the lungs originates from the mucous glands of the smaller bronchi still containing cartilage. Several clinical features in his case deserve mention. The patient gave a history of distinct hereditary predisposition to tuberculosis. Several old tuberculous lesions were found in the left apex. This coexistence of tuberculosis and carcinoma of the lungs, although denied in general by Rokitansky, is not at all rare. Wolff described 31 cases of carcinoma of the lungs, of which 23 were complicated by tuberculosis. Schwalbe described 10 cases, of which 3 were complicated by active tuberculosis. Furthermore, Friedländer, Hildebrand, Seigert and Ribbert described cases of carcinoma developing in tuberculous portions of the lung.

The clinical diagnosis of tumor of the lung was made rather late in the disease. The probability of tuberculosis seemed so great that one was inclined at first to favor this diagnosis rather than that of carcinoma. The asymmetry of the chest, the diminished expansibility of the affected side, the bloody pleural fluid, and the persistence of dulness after evacuation of the fluid, speak for both tuberculosis and carcinoma. The fact, however, that the apices remained practically clear while the process was localized entirely at the right base, and in addition to this the absence of tubercle bacilli, should have suggested strongly the diagnosis of carcinoma. The sputum examination, too, proved interesting. The sputum was examined almost daily, and the only almost constant finding was blood. Naturally, it was profuse and mucopurulent. The variously described so-called characteristic "granule cells" (*"Kernzellen"*) for carcinoma of the lungs were not found. As a rule, in a man over 50, profuse expectoration which almost constantly contains blood and no tubercle bacilli, associated with physical signs denoting some abnormal lung condition, should always make one very suspicious of neoplasm.

Two complications which arose—the abscess of the lung and the empyema of the gall bladder—masked the diagnosis in the lungs to a great extent; but the fact that even after those operations the patient did not get any relief, but became progressively worse, spoke highly in favor of an underlying malignant condition. When stenosis of the air passages became sufficient to produce symptoms, the diagnosis became more evident; but this, as usual, came late in the disease. Summing up the age of the patient (64 years) the bloody pleural fluid, the persistence of dulness after tapping, and the constant presence of blood in the sputum without tubercle bacilli, there was enough ground for making the diagnosis of carcinoma of the lung.

58. **Gastric Digestion of Infants.**—Clark believes that the motility of the infant stomach varies inversely to the concentration of the food. The more dilute the food the more frequently may the feedings be given. Lime water does not reduce the acidity of the gastric contents, the neutralizing of a portion of the acid being overcome by an increased stimulation of hydrochloric acid by the gastric glands. This may increase the amount of the acid available for digestion. Sodium citrate acts on the acid in the stomach, converting it into sodium chlorid and thus markedly reduces the "available hydrochloric acid." Barley water seems to have no constant effect on the chemistry of gastric digestion in the infant. The type of infants who vomit persistently may be divided into two classes, hypoacidity and hyperacidity. Test feedings should be given to this type of infants to determine to which class they belong. A 5 per cent. milk sugar solution seems to be the most satisfactory feeding to determine fine differences in the gastric contents. This may be followed by a mixture of milk of one part, water two parts, to determine to what extent the gastric glands are capable of responding to stimuli. For the lactose solution, thirty minutes is the most satisfactory time to allow the feeding to remain in the stomach; for the milk mixture, sixty minutes. On purely thoretical grounds, it would appear that when the acidity is low either small doses of alkalies or of hydrochloric acid are indicated, while in hyperacidity sodium citrate holds out the best hope of benefit. Protein digestion in the infant's stomach is slight and is proportional to the amount of hydrochloric acid in the organ.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

June

60 *The Sensory System of the Facial Nerve and its Symptomatology. J. R. Hunt, New York.
61 Second Attack of General Postdiphtheritic Paralysis Occurring After an Interval of Two Years. F. E. Coulter, Omaha, Neb.

60. **Sensory System of Facial Nerve.**—Hunt gives a general survey of the clinical development of the facial nerve from a sensory point of view. That this nerve has a sensory system of importance finds corroboration on many sides. The results of investigation in the realms of embryology and anatomy find their counterpart in symptomatology and pathology. He believes, therefore, that the seventh nerve should take a definite place as a mixed nerve and should rank with the fifth in symptomatology and nomenclature. This anatomic division of the trigeminal system has proved to be a very practical one, and it has seemed to Hunt that a reconstruction of the facial system along similar lines would have a clinical value. Such a reconstruction would recognize on the proximal side of the ganglion a motor and a sensory root, and on the distal side of the ganglion three branches:

Peripheral Divisions of the Seventh Nerve.—(1) The great superficial petrosal with its tympanic branch and connections with Meckel's ganglion; (2) the small superficial petrosal nerve with its tympanic branch and connections with the optic ganglion; (3) the Fallopian facial, including the motor trunk, the chorda tympani and sensory fibers for the auricle.

Sensory Functions of the Seventh Nerve.—Special sense fibers to the anterior two-thirds of the tongue (chorda tympani). Sensory anastomosis with the terminations of the auditory nerve (internal ear). Sensory fibers to the middle ear, mastoid cells, eustachian tube (deep branches of the petrosal nerves). Sensory fibers to the anterior two-thirds of the tongue (chorda tympani). Sensory fibers to the external ear (emerging with the facial trunk at the stylomastoid foramen).

Sensory Symptoms and Syndromes of the Seventh Nerve.—Pain—Organic Origin: Fallopian neuritis (third branch); tabetic degenerations (sensory root); herpetic otalgia (geniculate ganglion). Functional Origin: Primary otalgia (tic douloureux of the ear); reflex otalgias. Anesthesias: Hypesthesia of the concha; hypesthesia of the anterior two-thirds of the tongue; ageusia of the anterior two-thirds of the tongue. Reflex: Reflex etiologic factor in the production of reflex facial twitchings and spasms. Syndromes: The herpetic inflammations of the geniculate ganglion; herpes oticus; herpes oticus with facial palsy and acoustic symptoms; herpes facialis and herpes occipito-collaris with seventh palsy and acoustic symptoms.

Southern Medical Journal, Nashville

May

62 Tuberculosis of the Breast. W. L. Rodman, Philadelphia.
63 Early Differential Diagnosis of Typhoid Fever. C. Thorington, Montgomery, Ala.
64 Prevention of Ophthalmia Neonatorum. H. H. Martin, Savannah, Ga.
65 Technic of Tonsillectomy. E. C. Ellett, Memphis.
66 Methods of Ascertaining Renal Function, and Its Importance to Surgery. L. W. Bremerman, Chicago.
67 Cystoscopic Findings in 65 Consecutive Cases. H. L. Kretschmer, Chicago.
68 Hematuria Occurring in Chronic Appendicitis. H. A. Royster, Raleigh, N. C.
69 Mucous Colitis. G. M. Niles, Atlanta, Ga.
70 Cesarean Section that must be Elective. J. D. Bloom, New Orleans.
71 Chronic Appendicitis. E. M. Williams.
72 Lord Lister is not a Scotchman. L. L. Hill, Montgomery, Ala.

Interstate Medical Journal, St. Louis

June

73 Development of Milk Laboratories in Connection with the Dispensing of Food Stuffs. T. M. Rotch, Boston.
74 *Bence-Jones Albumosuria Accompanying Myeloid Sarcoma of the Humerus Coincident with Trauma. G. W. Cale, St. Louis.
75 Diet as a Prophylactic and Therapeutic. H. W. Wiley, Washington, D. C.
76 Lichen Planus; Four Cases Occurring in Two Families. M. F. Engman, and W. H. Mook, St. Louis.
77 Tumor of the Cerebellum. M. A. Bliss, and N. B. Carson, St. Louis.

74. **Bence-Jones Albumosuria.**—Cale's case is peculiar in that the albuminous substance was found by a physician a year ago before the appearance of the bone disease, and in there being only one bone involved, the humerus. It is also remarkable that such complete destruction should have taken place in about two months. The patient was disposed to attribute the trouble to an injury, but Cale is inclined to believe that it was rather coincidental, or at the most a slightly contributing cause, inasmuch as the albumose was apparently present for a long time before the development of the myeloma. Had the nature of the growth been periosteal sarcoma, then there would have been better ground for regarding the injury as the cause of the growth. This is the second case which has been recognized and come to operation, the other case being reported by Ewald, who removed the right clavicle—it being the seat of a myeloma; the other cases were inoperable on account of the number of bones involved.

Military Surgeon, Washington, D. C.

June

78 *Prevention of Typhoid Fever by Vaccination and by Early Diagnosis and Isolation. F. F. Russell, U. S. Army.
79 Bacteriology of Plague. G. W. McCoy, U. S. P. H. and M.-H. Service.
80 The Flea in its Relation to Plague, with Synopsis of the Rat Fleas. C. Fox, U. S. P. H. and M.-H. Service.
81 Examination of Rats for Plague Infection. G. W. McCoy, U. S. P. H. and M.-H. Service.
82 Management of a Plague Campaign within the Provisional Plague District. J. R. Hurley, U. S. P. H. and M.-H. Service.

78. **Vaccination in Typhoid.**—Although Russell discusses this subject from the viewpoint of the Army surgeon, his views

are in accord with those of the civil practitioner. He says that typhoid fever can be stamped out by an aggressive campaign in which the sources of infection are traced by modern methods. This disease is practically contagious, and the patients should be isolated and routine disinfection should be carried out, not only until they are convalescent, but also until they have ceased to excrete bacilli. The correct diagnosis at the earliest possible moment of all cases is of prime importance to the sanitarian. Earlier diagnosis can be made by blood cultures than by the agglutination test or by clinical signs. The diagnosis of mild and ambulatory cases is of the greatest importance for the sanitarian. Vaccination against typhoid is the most promising way of keeping down the noneffective rate due to this disease.

Medical Herald, St. Joseph, Mo.

June

83 Tic and Chorea. H. T. Patrick, Chicago.
84 How the Physician, as a Physician, Can Best Serve the Community in which he Lives. E. H. Miller, Liberty, Mo.
85 Diphtheritic Paralysis. F. E. Coulter, Omaha, Neb.
86 Early Treatment of Cross Eyes. W. H. Graves, Pittsburg, Pa.
87 New Therapeutics. W. Waugh, Chicago.

Bulletin Johns Hopkins Hospital, Baltimore

June

88 Life and Times of Gerhardt Van Swieten. A. G. Gerster, New York.
89 The Moderator Band and Its Relation to the Papillary Muscles, with Observations on the Development and Structure of the Right Ventricle. R. Retzer, Baltimore.
90 *Effect of Scarlet Red, in Various Combinations, on the Epitheliation of Granulating Surfaces. J. S. Davis, Baltimore.
91 Disposal of the Waste of the Brain Tissues. H. J. Berkeley, Baltimore.
92 Postanesthetic Acidosis. F. F. Gundrum, Baltimore.

90. Effect of Scarlet Red on Epitheliation of Granulating Surfaces.—Davis' paper is based on observations made during the treatment of 60 cases with scarlet red. He used 2, 4, 5, 8, 10 and 20 per cent. scarlet red ointments, with a simple vaselin base. Sterilization of the ointment caused the color to become somewhat darker, but this change did not seem to affect the stimulating power of the preparation. Clean, healthy granulations should be bathed with boric solution and dried. If the granulations are unhealthy, peroxid of hydrogen is used before the boric-acid solution. Free use of silver nitrite stick is advisable to keep down exuberant granulations. The skin surrounding the defect should be anointed with some bland ointment up to within 1 cm. of the edge. Since this has been done the irritation complained of in some of the early cases has been, to a large extent, eliminated. The scarlet-red ointment may be applied over the whole surface of the wound if it be small, or simply to the growing epithelial edges. Whichever method is chosen, it is best to apply the ointment on perforated old linen, to which the granulations will not adhere, and which allows the escape of secretions and thus prevents maceration. When applied to the edges, the old linen should be used in narrow strips with a thin layer of the ointment. Another very satisfactory method is to apply a thin coating of the scarlet red ointment to the wound edges with a camel's hair brush, being sure that the edges are dry. Then either cover with strips of old linen, or expose to the air. This is especially useful in the partial skin-graft cases, and on small wounds, as the ointment can thus be placed accurately and the amount regulated. The portions of the wound not covered by scarlet red may be dressed as seems best, or may simply be exposed to the air under a cage. A light dressing of sterile gauze secured by a bandage completes the procedure.

This dressing should be removed within 48 hours, 24-hour intervals being preferable, and replaced by some bland ointment, such as zinc or boric ointment. After the same interval has elapsed, the scarlet red dressing should be replaced. There were 60 cases treated. Of these 44 were males and 16 females, the youngest being 2 years old, and the oldest 76 years. Duration of the lesions, a few days to 15 years. The cases were grouped as follows: Partial skin grafts, 7 cases; ulcer following operation for infection, 10 cases; ulcer following burn, 11 cases; traumatic ulcer, 10 cases; specific ulcer, 8 cases; varicose ulcer, 7 cases; ulcer following Cotting operation for ingrown toe nail, 3 cases; bedsore, 2 cases; miscellaneous ulcer, 2 cases.

The general health of the patient seems to have some bearing on the stimulating effect of the scarlet red, which is distinctly less marked in nephritic and diabetic cases. The age, on the other hand, has little or no effect. The rapid-growing epithelium is thick and at first a bluish-red in color with an opalescent spreading edge. Venules of considerable size can be seen close to the surface. The color and the enlarged vessels soon disappear, however, and the newly formed tissue rapidly assumes the color and characteristics of the normal skin. A section through an area thus healed shows practically normal skin. As a rule, after a short time this skin becomes freely movable over the underlying tissues. The exact strength and combination of the ointment to be used on different types of wounds can hardly be dogmatically stated, as experience is necessary for this knowledge. However, a few general observations may be of advantage. The 8 per cent. ointment is used unless especially contraindicated. In some cases which were sluggish to the 8, the 20 per cent. ointment has caused rapid stimulation of the edges. Davis does not advise the constant use of the 20 per cent. strength, as on several occasions it has proved too irritating in spite of all precautions. It is of value now and then, although its action should be carefully watched. On several wounds which were nearly closed, the pure scarlet red powder was dusted on the uncovered area, after protecting the surrounding skin. It had a marked drying effect and caused no irritation. When the wounds are covered with unhealthy granulations, and the discharge is profuse and foul smelling, the scarlet red in iodoform ointment, or balsam of Peru, or blue ointment is very efficacious in cleaning up the granulations, and at the same time stimulating the epithelial growth.

Kansas City Medical Index-Lancet

June

93 The Doctor in Court. W. F. Langdon, Cincinnati.
94 Thoughts Connected with the State of Sleep. C. B. Hardin, Kansas City.
95 Rheumatism of the Throat and Eye. W. H. Graves, Pittsburg, Kan.
96 Treatment of Membranous Croup. C. S. Merriman, Kansas City.
97 Paralysis of the External Rectus Muscle, Due to Disease of the Sphenoid Sinus. J. W. Bell, Kansas City.
98 Varicocele. B. A. Poorman, Kansas City.
99 Unusual Injuries to the Eyes. J. W. Kimberlin, Kansas City.

West Virginia Medical Journal, Wheeling

June

100 Cardiac Asthma, Cheyne-Stokes Respiration, Bradycardia, Adams-Stokes Syndrome. L. D. Wilson, Wheeling.
101 Sarcoma of the Uterus in a Girl 12 Years Old. J. T. Thornton, Wheeling.
102 Power of the Mind over the Body. H. H. Phelps, Wellsburg.
103 National Formulary vs. Proprietaries. C. W. Halterman, Clarksburg.
104 Relationship of the Practice of Medicine to the Practice of Pharmacy. C. D. Sturm, Clarksburg.
105 Origins of Tics and Hysterical Symptoms. T. A. Williams, Washington, D. C.
106 *Large Foreign Body in Eye. J. L. Dickey, Wheeling.

106. Foreign Body in the Eye.—Dickey reports the case of an engineer who was struck in the left eye by a piece of glass from a lubricator tube. The cut extended from the center of the cornea to the margin and as far beyond it through the sclera. The glass was not discernible, and it was supposed to have bounced off after cutting the eye. But pain and inflammation did not subside under proper treatment, and the sight gradually disappeared until the patient had not even light perception. Skiagraphs showed a large piece of glass imbedded in the eyeball and protruding near the optic nerve. The eye was enucleated, and the piece of glass, was found to be of the dimensions shown by the skiagraphs, namely: three-fourths of an inch long, three-eighths of an inch wide, and about one-eighth of an inch thick, concavo-convex in shape. No sympathetic symptoms occurred.

Progressive Medicine, Philadelphia

June

107 Hernia. W. B. Coley, New York.
108 Surgery of the Abdomen. E. M. Foote, New York.
109 Gynecology. J. G. Clark, Philadelphia.
110 Diseases of the Blood, Diathetic and Metabolic Diseases of the Spleen, Thyroid Gland, and Lymphatic System. A. Stengel, Philadelphia.
111 Ophthalmology. E. Jackson, Denver.

Illinois Medical Journal, Springfield

June

112 *Relation of the Medical Profession to the Secular Press. J. W. Pettit, Ottawa, Ill.
113 Hygiene of the School Child. J. W. Van DerSlice, Chicago.
114 School [illegible]vill, Chicago.
115 Tubercu[illegible]th Tuberculinum Koch and an Index [illegible] Chicago.
116 *Indicati[illegible]r the Use of Antigonococcus Serum. R. H. Herbst, Chicago.
117 The Principles of Revision of the Pharmacopeia of the United States of America. F. Billings, Chicago.
118 A Comparison of the United States Pharmacopeia with some Foreign Pharmacopeias. W. A. Puckner, Chicago.
119 *How Can We make the Pharmacopeia more Popular with Physicians? B. Fantus, Chicago.
120 Diagnosis and Treatment of Chronic Catarrh of the Bowels in the Light of Recent Clinical and Physiological Research. J. L. Jacque, Chicago.
121 *A Modern Method of Treatment of Typhoid Fever. J. P. Roark, Bushnell, Ill.
122 Some Lessons in Tonsil Surgery. C. B. Younger, Chicago.

112. Abstracted in THE JOURNAL, June 12, 1909, p. 1951.

116. Use of Antigonococcus Serum.—In the last year Herbst has used the serum only in 24 joint cases, with excellent results in almost every instance. In 4 cases the patients did not show any improvement. In 2 of these, however, he was able to demonstrate the gonococcus in fluid aspirated from the affected joints. In the other 2 aspiration was refused, but he is convinced from the clinical picture in both of them that they were infections of the joints and not toxemias. Of the 20 cases in which results were good, 6 were of a very acute type, the joints being greatly swollen and extremely painful and tender. When cases in which the serum has been used with good results occur after a few weeks or months, it is because the source of the toxic material has not been eliminated before the use of the serum. The local infection should be cleaned up at the time or, better, before the serum is used. Another reason for the recurrence seen in these cases is the insufficient quantity of serum given. Unless the patient receives at least from 18 to 24 c.c. and, better, 30 c.c., he is likely to have a recurrence. Partial relief after the use of the serum in most cases is due to an insufficient dose. If a correct diagnosis is made; if the condition of the joint or joints is due to a toxemia and not an infection with the germ; if the original focus of infection is cleared up before or at the same time the serum is administered; if the serum is given in sufficient quantity, then antigonococcus serum will give the results expected of it. The serum has absolutely no effect on acute gonorrheal infections, whether they exist in the lower urinary tract or in any other part of the body. Its value in toxemic gonorrheal joints is without question. In the past these painful joints accompanying and following gonorrhea have been most resistant to treatment, both local and general, but in the serum we now have a remedy which will give rapid and permanent relief to the sufferers from this common complaint.

119. How Can We Make the Pharmacopeia More Popular with Physicians?—The pharmacopeia is not so popular with physicians as it ought to be; and that is one of the roots of the nostrum evil. Is there much in it to make it attractive to physicians? Is it not a pharmacist's rather than a physician's book? The Pharmacopeia contains but few of the facts that a physician must know in order to be able to prescribe, and many that the physician is not in need of. Would it not be well to have a book that would give in an authoritative, systematic, concise and yet complete manner all the facts that a physician might need in order to compose a prescription for and pharmacopeial remedy that he has not prescribed before? Such a book, according to Fantus, should contain: 1 The names of the drug—Latin name, English name, synonym. 2 The physical characteristics of the drug. 3 The chemical characteristics of the drug, including composition in case of compound drugs, for the purpose of teaching chiefly how to avoid incompatibilities. 4 Dosage—the average dose or doses, and the average frequency of repetition to obtain or maintain effect. The minimum fatal dose should be given wherever possible. Dosage for children might advantageously be added in connection with important drugs. For external remedies strength of application should be noted. 5. Administration—best methods known for prescribing the remedy in a pleasant and efficient manner. 6. Antidotes, antagonists and the treatment of poisoning. 7. The preparations of the drug, each of which should be treated from the above named first five standpoints. If more than one preparation is official, the relative merits and special uses of each should be pointed out. This, Fantus thinks, would be the physician's pharmacopeia, which every physician would have occasion to make frequent use of. To give such a book the greatest degree of reliability, completeness, and therefore usefulness, a body of experts such as constitutes the Committee of Revision of the Pharmacopeia would be required as its authors, and it should be published simultaneously with the pharmacist's pharmacopeia.

121. The practical points in this paper are the same as in a similar paper by this author in THE JOURNAL, April 3, 1909, p. 1089.

The American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

June

123 *Cesarean Section in Placenta Prævia. C. Jewett, Brooklyn, N. Y.
124 *The Indications for Abdominal Cesarean Section in Placenta Prævia. H. D. Fry, Washington, D. C.
125 *Sterilization in Cesarean Section. J. O. Polak, Brooklyn, N. Y.
126 *The Justifiability of Sterilizing a Woman after Cesarean Section, With a View to Preventing Subsequent Pregnancies. C M. Green, Boston.
127 *Further Reasons for Examining and if Necessary Removing the Vermiform Appendix in Every Case of Abdominal Section. A. L. Smith, Montreal.
128 *The Nurse as Anesthetist. J. M. Baldy, Philadelphia.
129 *Renal Excretion During the Administration of Chloroform and Ether in Gynecologic Surgical Operations. J. W. Bovée, Washington, D. C.
130 *Conservatism in Surgery of the Pelvic Organs. H. J. Boldt, New York.
131 Acute Postoperative Dilatation of the Stomach. E. H. Grandin, New York.
132 Streptococcus Infection and Medullary Carcinoma of the Breast in Pregnancy. E. P. Davis, Philadelphia.
133 Acute Anterior Poliomyelitis. J. D. Morgan, Washington, D. C.
134 Anterior Poliomyelitis. H. W. Frauenthal, New York.

123 to 126. Abstracted in THE JOURNAL, May 8, 1909, pp. 1527, 1528, 1529.

127, 128, 129. Abstracted in THE JOURNAL, May 15, 1909, pp. 1612, 1614.

130. Conservatism in Surgery of Pelvic Organs.—Boldt says that exsection of a part of an ovary, the seat of small cystic degeneration, or the puncturing of the small cysts does not deserve the name of conservative surgery, because the small cystic degeneration is without significance. Plastic surgery on suppurating Fallopian tubes is considered as bad surgical judgment, rather than as conservative surgery, because the patient on whom such a procedure is undertaken is not cured by it. The removal of a pedunculated subperitoneal myoma should not be considered conservatism; it is only a common sense procedure. Good judgment must be used in interstitial multiple myomata, and in subperitoneal myomata if the latter have attained to more than 4 or 5 centimeters in diameter. To retain the uterus in such cases is conservative surgery. It is also conservative surgery to retain the whole or a part of the uterus in cases of an abscess in the uterus. In cases of ovarian tumors, an attempt should always be made to regain functionating ovarian stroma from the base of the tumor. In all cases of doubtful character of the tumor a frozen section of it should be made, if possible, by the pathologist of the hospital, and his report on the character of the tumor be obtained before the abdomen is closed. Boldt has done the operation 45 times in cases of bilateral tumors during the past 20 years, and, with one exception, there has been no occasion to regret the procedure. The menstrual function had been retained in all patients; some had conceived and were delivered at term.

Dominion Medical Monthly, Toronto

June

135 Anterior Poliomyelitis. H. T. Machell, Toronto.
136 Paraplegia. J. T. Fotheringham, Toronto.
137 Hyperpyrexia. D. J. G. Wishart, Toronto.
138 Tuberculosis in the General Hospital and its Relation to the Milk Problem. J. N. E. Brown, Toronto.
139 The More Important Germs Found in Aural Discharge, with some Clinical and Pathologic Manifestations. G. Royce, Toronto.

Journal of Advanced Therapeutics, New York

June

140 Employment of the Caldwell Cavity Tube as a Surface Electrode. C. R. Dickson, Toronto.

141 Treatment of Arteriosclerosis and Hypertension. W. B. Snow, New York.
142 Electrochemical Minor Surgery. E. S. Smith, Bridgeport, Conn.
143 High-Frequency, High-Potential Currents in Diseases of the Nose and Throat. I. C. Soule, Kansas City, Mo.

Laryngoscope, St. Louis

June

144 Observations on Esophageal Cases and the Presentation of Two New Instruments. H. P. Mosher, Boston.
145 Chronic Stenosis of the Larynx Cured by Dilatation. D. B. Delavan, New York.
146 *Sheet of Directions Given to the Patient After a Tonsil Operation. E. Pynchon, Chicago.
147 Early Immunization, the Essential Function of the Tonsil. R. H. Good, Chicago.

146. This article also appeared in the *Virginia Medical Semi-Monthly*, May 21.

St. Paul Medical Journal

June

148 The Genesis of the Transmissible Diseases. J. M. Armstrong, St. Paul.
149 *The Parathyroids. J. S. Gilfillan, St. Paul.

149. **The Parathyroid Glands.**—Gilfillan reviews the literature on the physiology of the parathyroids and points out that the postoperative tetany is almost certainly, other forms of tetany probably, due to parathyroid insufficiency. That certain diseases manifesting disturbed calcium metabolism, notably rachitis and osteomalacia, may possibly have a similar origin, while as yet the evidence is insufficient as to the many other constitutions mentioned in this connection. The value of parathyroid therapy, he says, is still doubtful.

Albany Medical Annals

June

150 *One Hundred Cases of Herniotomy in Children with End-Results. H. C. Deaver, Philadelphia.
151 The Emmanuel Movement. A. S. M. Chisholm, Bennington, Vt.
152 Some Relations of Normal Suggestion. H. Elliott, Troy, N. Y.

150. **Herniotomy in Children.**—Deaver sent a circular letter to the parents of 100 children. There was no operative mortality in this series. Replies received from 63 showed no instance of recurrence. These operations were performed from 1 to 16 years ago. All these children were below the age of 14 years. The youngest patient was a baby 28 days old, who was operated on for strangulated hernia. In this series there were 2 instances in which brothers of nearly equal ages were operated on in succession. In this series there were 3 scrotal hernias of large size in children under 5 months of age. Based on the above cases, Deaver concludes that if the hernia be small and the truss easily kept in place, it is feasible to persevere in the use of this apparatus. If there is no cure after a year's trial, operation should be performed. The truss should only be advised when the mother is intelligent enough to carry out the instructions as to its proper use. It is not advisable to order trusses among the poor where the care of the children and their environments are not so favorable as among the intelligent classes. Too often in such cases the wearing of the truss offers a false sense of security against accidents, such as strangulation, and the hope that the truss will cure these hernias often proves futile. The expense of the truss must also be considered. Since the operation has practically no mortality, and since the results are so good, radical operation is justifiable, and this wholly irrespective of age. In large scrotal hernias he would not advise in any class of patients the use of the truss because the operation is not serious and the results are perfect and permanent. As to the operation itself, the most important point in the closure of the canal is the separation of the layers so as to get firm union between them in their new relations and, at the same time, to prevent any tension on the deep sutures. The skin incision should not be prolonged too far outward toward the scrotum; not more than half an inch below the external abdominal ring. The sac should be completely removed, and, if cut properly, its stump disappears from sight by the elasticity of the peritoneum. The only true indication that the limit of the sac has been reached is the end of the thickening of the tissue forming the sac.

Mississippi Medical Monthly, Vicksburg

June

153 *Indigestion from a Surgical Standpoint. J. Darrington, Yazoo City.
154 The Neglected Gynecologies. L. C. Feemster, Nettleton.
155 Enterocolitis in Children. G. S. Bryan, Amory.

153. Abstracted in THE JOURNAL, May 15, 1909, p. 1606.

New Orleans Medical and Surgical Journal

June

156 A Year's Progress in Tropical Medicine. J. M. Anders, Philadelphia.
157 *Relation of House-Flies to the Spread of Disease. H. Skinner, Philadelphia.
158 Positive Differentiation of Hysteria and Psychasthenia—Essential Characters. T. A. Williams, Washington, D. C.
159 Thymokesis. A. E. Fossier, New Orleans.
160 Hemoglobinuria, or Blackwater Fever; Its History, Geographic Distribution, and Etiology. M. Brady, New Orleans.
161 The Doctors and Their Ethics. E. D. Martin, New Orleans.
162 Classics and Modern Training. W. Miller, New Orleans.

157. Abstracted in THE JOURNAL, May 8, 1909, p. 1536.

Iowa Medical Journal, Des Moines

June

163 How to Interest the Young Man in the County Society. J. V. Littig, Davenport.
164 The Lazy Secretary and His Baneful Influence on the County Society. N. M. Whitehill, Boone, Ia.
165 *New Method for Closing Canalis Femoralis in Large Femoral Hernia. H. J. H. Hoeve, Des Moines.
166 Protest and Prophesy. C. A. Henry, Farson, Ia.
167 Peculiar Ner [illegible] ated During Pregnancy and Labor. H [illegible]
168 Infections C [illegible] n a Clinical Viewpoint. H. G. Welpton, Des Moines.
169 Unusual Infection of the Face. E. E. Dorr, Des Moines.
170 Case of Anencephalus. J. A. Goodrich, Des Moines.

165. **Femoral Hernia.**—All operations for the radical cure of femoral hernia have the same object in view, namely, reduction of the contents of the sac, doing away with or obliterating the sac and prevention of recurrence by closing the annulus et canalis femoralis. The only method which meets all the requirements anatomically as well as surgically, would be a total obliteration of the annulus femoralis and the canalis femoralis, a closing up of this entire space in such a way that there is no traction on the stitches and that it is stronger than it was under normal conditions. To meet these requirements, Hoeve offers the following method. He has never seen a recurrence when this method was followed properly:

1. Make a curved incision from the middle of the ligamentum inguinale (Pouparti) inward and downward, until well below the lower level of the hernial sac.
2. Free the entire sac as far up as possible and after opening it, deal with its contents as necessary. Omentum can be cut away, bowel may be replaced if in good condition, etc.
3. Close the neck of the sac as high up as possible with a purse-string suture and remove it.
4. Introduce two stitches from without inward, including the cornusuperious marginis falciformus, the internal fibrous septum, the neck of the sac and the antero-superior part of the ligementum lacunare (Gimbernati), *but see to it that there is no tension.*
5. Dissect up a flap of fascia pectinea, (pubic portion of the *fascia lata*), and loosen it carefully forward and upward until the pecten ossis pubis is reached.
6. Ligate the arteria pudenda externa near the external cut margin of the flap.
7. Strengthen the rolled margin or base of the flap by introducing two or three stitches through it into the muscle pectineus (mostly not necessary).
8. Introduce two deep stitches through the middle of the flap and the puckered up neck of the sac and pull them tight.
9. Sew the external margin of the flap carefully against the anterior surface of the margo falciformis, introducing the stitches from without inward through it, the vagina vasorum and the areolar tissue without injuring the vena femoralis.
10. Continue with the same chromacized catgut and sew the internal border of the flap against the inferior part of the ligementum inguinale (Pouparti).
11. Sew the loose margin of the fascia pectinea, just internal to the fossa ovalis to the muscle pectineus.
12. Close the wound by bringing together the tela subcutanea and the integument.

Bulletin of the American Academy of Medicine, Easton, Pa.

June

171 *Statement of the Entrance Requirements and the Didactic and Laboratory Portions of the Medical Course at Colleges Requiring Preparatory Studies Beyond the High School Course Equivalent to One or More Years at College. N. P. Colwell, Chicago.
172 *Can the Third and Fourth Years of the Literary College Give Any of the Subjects of the Medical Course? W. M. Miller, Columbia, Mo.
173 *Can the Colleges Give as Electives in the Junior and Senior Years Any of the Work Required in the First Two Years of the Course in Medicine? J. L. Heffron, Syracuse, N. Y.
174 What Are the Underlying Principles Permitting the Entrance of a Student to Advanced Standing in a Medical College; And What Methods Should be Used to Make These Principles Effective? C. McIntire, Easton, Pa.
175 Preliminary and Graduation Requirements for the Medical Course in Terms of Work Done. E. Jackson, Denver, Colo.

171, 172, 173. Abstracted in THE JOURNAL, April 3, 1909, p. 1132, 1133.

174, 175. Abstracted in THE JOURNAL, April 10, 1909, p. 1201, 1202.

The Old Dominion Journal of Medicine and Surgery, Richmond

June

176 *The Treatment of Locomotor Ataxia by Exercises of Precision. J. K. Mitchell, Philadelphia.
177 *Diverticulum of the Intestine. G. B. Johnston, Richmond, Va.
178 *The Treatment of Fracture of the Patella, Especially Old Fractures. F. W. Parham, New Orleans, La.
179 Requisites for the Treatment of the Psychoneuroses; Psychopathologic Ignorance, and the Misuse of Psychotherapy by the Novice. T. A. Williams, Washington, D. C.
180 Fractures of the Head and Neck of the Radius. G. P. Laroque, Richmond, Va.
181 The Motais Operation for Ptosis. H. D. Bruns, New Orleans.
182 The Modern Teacher of Internal Medicine. G. C. Robinson, Philadelphia.

176. **The Treatment of Locomotor Ataxia by Exercises of Precision.**—When the ataxic has been unwisely advised, activity, and is suffering from fatigue, increased lack of control, and severe pains, Mitchell orders rest in bed for two or three weeks, with massage. Under this treatment the pains are said to grow less or wholly to disappear—partly from the absence of exertion, partly because the patients are not exposed to sudden temperature changes, partly through the influence of the massage. Massage must be deep, hard and slow, to be effectual. After this rest, Mitchell begins training in control—variously described as coordination exercises and reeducational gymnastics, but which he prefers to call precision exercises. The general principles which should govern the instruction are to proceed on natural lines in the way one would use in teaching any unaccustomed movement, remembering above all that the point and essence of the whole plan is precision. The exercises, from the simplest to the most complicated, must be performed accurately, with the idea always before both teacher and pupils that to do the prescribed movement correctly and exactly is the task—not just to do it. If the patient walks, he walks not to reach a certain spot but to walk in a certain fashion. Individual teaching is absolutely required in the beginning. After the first lessons and when the patient is once able to do a little work on his feet, he may join a class and find not only that the stimulus of competition is a help, but that his observation of the errors of others assists him to correct his own. The vision may be used as a guide, in bad cases. When improvement has begun, some of the exercises may be performed with closed eyes. A very few minutes twice a day will be found sufficient at first. In very early cases this method has seemed to exert a sort of prophylactic influence in holding the diseases in check. This statement is made by Mitchell with full knowledge of the fact that ataxia is a disorder which advances a stride and then pauses—and that the pauses which belong to the natural history of the disease may be mistaken for improvements or considered to be consequent on treatment. The result has occurred too often and lasted too long for this conclusion. A case is at present under observation which has not advanced in fifteen years; another whose improvement has remained unimpaired nine years and others have dropped out of sight after six or seven years had brought no change for the worse.

177. **Diverticulum of the Intestine.**—Johnseton's case was one of those in which the distal end of the diverticulum is free, and some accident, such as acute diverticulitis (comparable in all respects to an acute inflammation of the appendix), causes the fixation of the end of the diverticulum to the wall of the abdomen, the omentum or the intestine, thus forming a loop, and in this loop a coil of intestine or omentum becomes strangulated.

178. **Fracture of the Patella.**—Operative treatment being considered the desirable one for the case under consideration, Parham recommends approximation by suture of the soft tissues only in recent fractures. In old fractures this plan is out of the question and other measures usually advised must be employed. Parham reports one case of fracture of both bones—one recent, the other of five years' standing. The former was treated as stated above, the latter was wired. The result was excellent, complete approximation with restoration of function being secured in both patellæ.

Louisville Monthly Journal of Medicine and Surgery

June

183 Increasing Prevalence of Animal Tuberculosis. A. D. Melvin, Washington, D. C.
184 Obstetrics on the Thibetan Border. A. L. Shelton, Bating, W. China.
185 Mucous Colitis. C. Thompson, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 12

1 *Modern Treatment of Fractures. J. Lucas-Championnière.
2 Prodromas of Migraine. Sir W. R. Gowers.
3 Diagnosis of Syphilitic Diseases of the Nervous System. F. W. Mott.
4 *Chronic Intestinal Stasis. W. A. Lane.
5 Hypertrophic Osteoarthropathy of Hands without Visceral or Constitutional Disease. R. C. Worsley.
6 Biotripsis, or Life-Wear: Trophic Changes in Old Age. G. L. Cheatle.
7 Aspects of the Legal Responsibility of Medical Men. A. O. Cowburn.
8 A Thirty Days Fast. F. Penny.
9 True Elephantiasis. H. S. Reynolds.
10 Nævus Pigmentosus. E. N. M. Ross.

1. **The Modern Treatment of Fractures.**—Lucas-Championnière gives a summary of the history of the treatment of fractures down to the present day, and then proceeds to the discussion of the method employed by him with good results. He says that a certain amount of movement between the fragments ensures the best bony repair; this is the cornerstone on which his method is based. Every movement which is not injurious by reason of its amplitude favors repair; but the movement must be measured—dosed, so to say. The movement which is necessary for the repair of the bones is not less necessary to the vitality of all constituent parts of the limb, and particularly for all the organs of motion—joints, muscles, ligaments and tendons. Massage forms the best form of movement. By simple mobilization, by massage, and even by his own examination, the surgeon ought never to cause pain, for the pain so caused leads to fresh pain and produces complications.

The reduction of a fracture is only a relative necessity: it should be resorted to only in certain deformations of the axis of the bone which are incompatible with the function of the limb—lower third of the leg, shaft of the humerus. In a large number of cases the maneuver of reduction is useless; it is useless in all fractures of the radius with impaction and moderate deformity, in most fractures of the upper extremity of the humerus, and in the great majority of fractures of the neck of the femur. In all fractures in which the displacement is due to muscular contraction, any attempt at reduction is useless, as in fracture of the clavicle, of the olecranon, and many fractures of the malleoli. After massage the fracture is either spontaneously reduced, as in the case of the olecranon, or is very easy to maintain reduced, as in the case of the clavicle and malleolus. Those conditions which favor the vitality of the limb are all more important than those which produce immobilization of the fragments. The fact that shortening has not the injurious influence on repair which it is said to have should not be lost sight of when considering displacement. A moderate degree of shortening which does not change the static position of a limb is favorable to repair. The muscles surrounding a shortened lever act more rapidly and better than on a lever on which they are stretched. A certain amount of shortening ought not to be interfered with, as it is favorable to the repair of a broken bone. Massage has so great an effect in stimulating bony secretion at the site of fracture that in children, in whom the activity of the production of the bone is great, massage ought not to be applied, save with great moderation, for fear of provoking excessive osseous secretion—in fact, a tumor. In their case simple mobilization is often sufficient.

Mobilization from the beginning, within twenty-four or forty-eight hours, is of capital importance, and at this stage movements of very small amplitude are sufficient; passive or induced movements are the best at the beginning. Active or spontaneous movements ought to be measured and directed by the surgeon; to allow the patient to follow his own fancy with regard to active movements is dangerous—all the more dangerous because with Lucas-Championnière's method the pain caused by movement disappears from the beginning, and therefore does not limit the untimely action of voluntary movement. The pain experienced and the degree of sensitiveness of the callus are the best guides in directing and in permitting movement by the patient. The secondary treatment of fractures and their supervision ought not to be prolonged. Functional use of a fractured limb is the condition most favorable to its regaining active power. Even during this secondary period everything likely to irritate the region of the callus ought to be avoided. It is useless to cause pain by movements exaggerated in amplitude or by resort to forcible manipulation.

4. **Chronic Intestinal Stasis.**—Lane refers to a previously described operation for the relief of intestinal stasis in which a stage has been reached in which owing to the delay in evacuating its contents the large bowel has not only ceased to perform a useful function, but has become such a source of danger that its removal from the drainage scheme will be of great service to the body. It depends on the degree of development of the condition as to whether it is sufficient to separate and destroy constricting bands, or to divide the ileum and to connect it with the sigmoid or rectum, or whether it is necessary to remove the large bowel proximal to the junction. While in an early stage, and especially in the male subject, the obstruction at the hepatic or splenic flexures or at the sigmoid may be relieved by the division of bands producing constriction, in a late stage, when the small intestine has undergone extreme changes, the removal of the whole of the large bowel proximal to a junction between the small intestine and the sigmoid affords only a temporary alleviation of symptoms. The most favorable cases for operation are those in which the symptoms are of a toxic rather than of a painful nature. In such the division of the ileum and its junction with the lower part of the large bowel give complete relief to the symptoms and the consequent physical and mental improvement is extraordinary. When painful symptoms are much in evidence the large bowel should be removed. The risk entailed by operation can be reduced very materially by first relieving the toxic symptoms by connecting the divided ileum with the sigmoid or rectum, and later, when the general condition of the patient has improved in consequence of this procedure, the large bowel can be excised if the symptoms demand it.

Lancet, London

June 12

11 *Modern Treatment of Fractures. J. Lucas-Championnière.
12 Diagnosis of Syphilitic Diseases of the Nervous System. F. W. Mott.
13 Operative Treatment of Fractures. W. A. Lane.
14 *Vaccine Therapy of Enteric Fever. D. Semple.
15 *Facial Palsy Treated by Faciohypoglossal Anastomosis. C. A. Ballance.
16 *Surgical Treatment of Colitis. G. Heaton.
17 Fatal Hemorrhage into the Pons Varolii in a Young Infant. S. Phillips.
18 Internal Hernia; Extensive Resection of Gangrenous Ileum; Recovery. W. S. Handley.
19 *Bacillary Infection of Urinary Tract Treated by Corresponding Serum and Vaccine. H. O. Butler.
20 Instructive Fatal Case of Appendicitis with Advocacy of Early Operation. J. S. Boden and E. M. Corner.
21 Rupture of the Heart. W. H. Davis.
22 Hydatid Cyst of Uterus: Hysterectomy; Death after 48 Hours. S. Clark.

11. See Abstract No. 1.

14. **Vaccine Therapy of Enteric Fever.**—Semple claims that the administration of bacterial vaccines in cases of enteric fever is a practical method of increasing the bacteriotropic substances in the blood, as evidenced by an increase in the opsonic index of cases treated by this method. When appropriate doses are given the method is devoid of all risks, is easily carried out, produces no apparent disturbance in the patient's condition, and does not interfere with any other treatment the physician may deem necessary. In six of the nine patients treated well-marked improvement set in after the inoculations, especially in two cases treated with autogenous vaccines. In the remaining three there was an amelioration of the clinical symptoms.

15. **Facial Palsy Treated by Faciohypoglossal Anastomosis.**—Ballance reports the case of a young woman of 25 who had complete left facial palsy and unhealed disease of the temporal bone. She gave a family history of phthisis and had herself suffered from hemoptysis. Six attempts to cure the bone disease by operation were made, but proved ineffectual. In January, 1906, foul pus was discharging from the left ear. There was complete facial palsy on the left side; the patient suffered from pain in the left ear and from frontal and occipital headache. She was slightly ataxic on the left side. In walking she occasionally tended to deviate, but the direction of deviation was not constant. There was no aërial conduction of hearing on the left side, but bone conduction was still present. There was no optic neuritis, but the left external rectus was weak. The reflexes were normal. The right ear was normal. On Jan. 24, 1906, a radical mastoid operation was performed. Ballance found that the facial nerve had been divided in the descending portion of the Fallopian canal, the horizontal semicircular canal had been opened, and there were two other openings into the semicircular canals as if an attempt had been made to remove them. The antrum had been incompletely exposed and was full of greenish pus. The tegmen tympani was carious and was removed; the dura over it was thickened, but not perforated. On July 4, 1906, there was slight constant left internal strabismus, in addition to complete left facial palsy of peripheral type. On July 10 a nerve-grafting operation was done. An incision was made along the anterior border of the sternomastoid; the posterior belly of the digastric was exposed and divided; the facial nerve was found at the lower part of the parotid and was identified by direct electrical stimulation; the retrahens aurem was the only muscle which responded to the stimulus. The trunk of the facial nerve was followed up to the stylomastoid foramen and divided at its point of emergence. The hypoglossal nerve was divided at the posterior border of the hypoglossus, and the occipital artery was divided between two ligatures so as to set free the nerve. The central end of the hypoglossal nerve was then anastomosed with the peripheral end of the facial. The spinal accessory nerve was next isolated and split longitudinally for about two inches; one-half of the nerve was divided transversely at the distal peripheral end of the slit. The strip of spinal accessory so raised up was united end to end with the peripheral end of the divided hypoglossal. The posterior belly of the digastric was sutured and the wound closed. Six weeks after the operation the left trapezius and sternomastoid muscles and the left side of the tongue were atrophied. When the patient returned 20 months after the operation the nutritional and functional recovery of the facial lingual and cervical muscles was complete. The movements of the face and tongue were dissociated, but when the shoulder was suddenly jerked a wave of muscular contraction was seen to pass from the back of the left side of the tongue toward the tip, so that the movements of the shoulder and tongue are not yet completely dissociated.

16. **Surgical Treatment of Colitis.**—Heaton is firmly convinced that in some cases of chronic colitis, when the symptoms have remained unabated in spite of years of patient medical treatment, a removal of the appendix will sometimes completely cure the patient, and this even when after removal there is apparently little or nothing pathologic in the removed organ. For membranous colitis he prefers appendicostomy. In acute ulcerative colitis surgical treatment is urgently called for. The large bowel must be kept empty and at rest, and yet to starve such patients is to kill them, while rectal feeding is out of the question. An artificial opening is made in the cecum, or the appendix is fixed to the abdominal wall and opened. In chronic ulcerative colitis an appendicostomy with prolonged daily irrigation of the colon will in many cases effect a cure.

19. **Bacillary Infection of the Urinary Tract.**—The prompt action of anticoli serum, the absence of action of a polyvalent antistreptococcus serum, and the uselessness of rectal injection of the anticoli serum seem to be the points of interest in Butler's case.

The British Journal of Children's Diseases, London

May

23 Chronic Rheumatoid Polyarthritis in a Child. O. J. Kauffmann.

24 General Suppurative Peritonitis Due to Gangrenous Appendicitis and Followed by Subphrenic Abscess; Two Operations; Recovery. A. J. Cleveland.
25 Rheumatoid Arthritis in a Child, Aged Two and a Half Years. J. P. Parkinson.
26 Pancreatic Cyst in an Infant. W. H. Telling and J. F. Dobson.
27 *Frequency of Pulmonary Tuberculosis in Children. J. E. H. Sawyer.

27. **Pulmonary Tuberculosis in Children.**—There were only 19 cases of tuberculosis of the lungs in Sawyer's series of 244 postmortem examinations. The condition of the lungs in the cases of generalized tuberculosis was of recent origin in every instance, and does not seem to have been the starting point for the dissemination of the tubercles. The disease in the bronchial glands was of much longer standing in many of the cases, and it is very probable that the generalized tuberculosis originated from them. The only case in which a fairly large tuberculous cavity in the lungs was found was in a child, aged 6 months, so that considering the age of the patient the disease could only have been of short duration. In the two cases of bronchopneumonia the disease was again acute. In the remaining 7 cases, one child was aged 2½ years and another 1 year and 10 months, so that the disease in the lungs can scarcely be described as chronic. In another child, aged 3 years, with tuberculous meningitis, although the meningeal condition may have been secondary to the disease in the lungs, yet the appearance of the lungs suggested a recent infection. There remained, therefore, 4 cases in which the pulmonary tuberculosis can be described as at all chronic. Of these four cases, only the first child, who died from tuberculous meningitis, and the one who suffered from cerebral tumor of tuberculous origin, can have suffered from pulmonary tuberculosis for any length of time, and only these two appear to present the condition which corresponds to that found in phthisis when occurring in adults. The small caseating foci found in a girl aged 6 years, with fibrosis of the lungs, were of recent origin, and were due to a terminal infection in a fibrosis which was evidently not due to tuberculosis. It is a remarkable coincidence that in one child who died from septic meningitis, due to perforation of the right supraorbital plate by a knitting needle, recent caseating foci were found in the lower lobe of the left lung; but it must be remembered that this was one only out of 244 cases. In none of the others, except one of those suffering from bronchopneumonia, was tuberculosis found only in the lungs and bronchial glands.

In 244 cases of children dying under the age of 15 years, there were found, therefore, at the postmortem examinations only 2 cases in which the condition could be described as phthisis of the adult type, and in all the other 20 cases of tuberculosis of the lungs the disease was either due to an acute affection or one of a comparatively short duration. Sawyer adds, however, that patients suffering from phthisis are not usually admitted to a general hospital, except for some urgent reason; but when it is considered how very frequently phthisis and evidence of past tuberculosis of the lungs are found in the postmortem examinations of adults, and that it was only in 2 cases out of 244 children under 15 years of age that a condition at all comparable with the chronic phthisis of adults was discovered, one must conclude that phthisis is a rare disease during childhood. Sawyer concludes from the results of his postmortem examinations that pulmonary tuberculosis in children presents itself either as part of an acute disseminated tuberculosis, in which the lung condition is also acute, or as a bronchopneumonia of short duration which is tuberculous from the beginning. He has therefore formed the opinion that the latent and chronic form of phthisis as found in the adult is a rare disease in children.

Australasian Medical Gazette, Sydney

April

28 Presidential Address: Work Done by the New South Wales Branch of British Medical Association. G. H. Abbott.
29 Syphilis and Nervous Diseases. A. Davidson.
30 Early Recognition of Tuberculosis. A Plea to the Profession. A. Stewart.
31 Causes, Results, and Treatment, Immediate and Remote, of Injuries of the Genital Tract. R. Worrall.
32 *Rapid Death Due to Acute Septicemia. J. E. Dods.
33 *Barany's Tests in Labyrinthine Affections. G. S. L'Estrange.
34 Septic Conditions of Mouth in Relation to General Medicine. R. Jones.
35 Staining (? Poisoning) by Manganese. A. Palmer.
36 Subphrenic Abscess. A. H. Rutherford.
37 Acute Rupture of Appendix; Peritonitis, Operation; Recovery. F. Clarkson.

32. **Rapid Death Due to Acute Septicemia.**—Dods reports three cases of rapid death, which came under his notice during one week. They were doubtless cases of acute septicemia with a sudden onset and a fatal termination within 24 hours. Prior to the onset of the illness, all three patients were in good health and at work, and in none could the source or entrance of the infection be discovered. The first two died before they were seen by a medical man, and the third was sent to the hospital, but died shortly after admission. The first two cases were reported as suspected plague cases, but as no bipolar bacilli could be found and the guinea-pigs did not appear to be susceptible, the cause of death was ascribed to acute septicemia. No suggestion is offered as to where the seat of infection was, as Dods failed to find any wound or sore in any of the cases.

33. **Barany's Test in Labyrinthine Affections.**—L'Estrange says that it is possible by this method to obtain a further insight regarding labyrinth affections than is afforded by the fork, watch and acoumeter. More especially in cases of deafness with dumbness can a clearer estimate of the nature and extent of the lesion be formed. The vestibular apparatus, the cochlea and the semicircular canals having various functions are differently affected by the test, but further and repeated observations are necessary before any rules can be absolutely laid down. All records he has been able to examine show that of all labyrinthine affections syphilis gives the most constant and marked reaction to Barany's test, and this he has himself found in three patients whom he has been able to examine recently, while in many cases of otosclerosis which are at hand for every aurist the test shows an increased sensibility and a marked increase in duration. Going further, Barany's test will give some indication as to the part of the labyrinth affected, for while affection of the upper part of the basilar membrane of the cochlea renders low tones better heard and an affection of the lower basilar membrane renders high tones better heard, still the variation here is not sufficient to discount the main axiom of lessened perception of low tones in labyrinth affections. Going further, lessened nystagmus with slight disturbance of hearing in a case of labyrinth trouble would point more to a lesion of the semicircular canals than of either the vestibular apparatus or the cochlea, whereas normal or seminormal nystagmus resulting in a case of undoubted labyrinth disease would indicate an affection of the vestibular apparatus and the cochlea to the exclusion of the semicircular canals. Finally, Barany's test helps in the sometimes difficult task of estimating the amount of labyrinth affection when complicated with a middle-ear sclerosis and a central lesion; moreover, it enables us to distinguish with some precision between affections of the vestibular apparatus, the cochlea, and the semicircular canals.

Indian Medical Gazette, Calcutta

May

38 *Inoculation Accident in Manila, in 1906. W. M. Haffkine.
39 Accidental Inoculation with the Virus of Plague. P. C. Freer.
40 Spinal Analgesia. E. E. Waters.
41 Preparation, Assistance, After-Treatment, and Management of Cataract Cases. A. Bakhsh.
42 Splenic Anemia. C. Donovan.

38. This article was published in full in The Journal, May 15, 1909, p. 1565.

Annales de Gynécologie et d'Obstétrique, Paris

May, XXXVI, No. 6, pp. 257-320

43 *Exophthalmic Goiter in Relation to the Reproductive Function in Women. A. Pinard.

43. **Exophthalmic Goiter and the Reproductive Function.**—Pinard's experience includes nine cases in which exophthalmic goiter showed an unmistakable connection with ovulation. In several, restoration of normal ovulation was accompanied by the subsidence of the exophthalmic syndrome. He does not accept the German view that pregnancy aggravates the tendency to the latter, but rather agrees with Charcot that improvement is liable to follow measures to regulate the menstrual function. In his first case the exophthalmic goiter de-

veloped at puberty, but subsided as menstruation became regular; it returned in typical form during a period of amenorrhea, but subsided again during a pregnancy, and this fluctuation occurred during three pregnancies. In another case exophthalmic goiter developed during a period of amenorrhea and persisted for five years with varying intensity. The genital apparatus was infantile, but it developed between 25 and 30 and menstruation returned and became regular about 30, at which time the exophthalmic triad vanished completely. Pregnancy occurred in the next year; disturbing vomiting occurred at first, ceasing about the fourth month, and conditions have been normal since, for eleven years. The confinement and lactation were normal. In one family exophthalmic goiter was observed in three generations, the affection becoming attenuated or disappearing with regular menses. A number of other cases showed the constant sequence of increasing corpulence, suppression of the menses and development of the exophthalmic goiter. Nearly all these patients were practically cured under treatment which generally included hydrotherapy, restriction to a milk diet or electricity, or all combined. He comments on the case reported recently by H. M. Stowe in which the exophthalmic goiter became apparently aggravated during a pregnancy—his impression being that the alleged aggravation was in reality merely the result of autointoxication and uncontrollable vomiting.

Bulletin de l'Académie de Médecine, Paris

May 18, LXXIII, No. 20, pp. 583-636

44 *Thyroid Instability, and its Paroxysmal Form. Léopold-Lévy, H. de Rothschild and Huchard.
45 Prophylaxis of Infectious Diseases in Sweden and Norway. (La lutte contre les maladies infectieuses en Suède et en Norwège.) F. Widal.
46 *Serotherapy of Gonococcus Septicemia. Dieulafoy.
47 Epidemic Cerebrospinal Meningitis. E. Boinet.

June 1, No. 22, pp. 643-650

48 Advantages of Machine-Made Bread. (Fabrication mécanique du pain.) A. Raillet.

44. **Thyroid Instability.**—Lévy and Rothschild apply the term of thyroid instability to a series of morbid conditions between the extremes of myxedema and exophthalmic goiter. Conditions may be observed in which the symptoms, simultaneous or successive, indicate both deficient and excessive thyroid functioning. This is the result of a general law of nature that an organ functioning defectively strives to restore normal balance, and, when this is reached, is liable to go beyond it with an exaggerated function. In the present communication the authors call attention to a special paroxysmal form of thyroid instability. This comprises a number of syndromes, previously classified as neuroarthritism: migraine, periodical vomiting, asthma, hay asthma, urticaria, eczema, attacks of mucomembranous enteritis and waves of chronic rheumatism. These syndromes are encountered in persons with pronounced thyroid instability, and during the paroxysm the whole picture of thyroid instability is observed, while certain symptoms which form part of it had been hitherto latent. Another argument is the connection between these syndromes and the sexual sphere; owing to the close relation between the ovaries and the thyroid the syndrome sometimes leads to hypoplasia. The most important argument, however, is that thyroid treatment will cure these symptoms and, inversely, thyroid treatment is capable of reproducing them. In myxedema the thyroid functioning is at such a low ebb that there is no reaction for restoration of balance, and the symptoms are continuous. Huchard comments with approval on their work in this unexplored field, and adds that essential paroxysmal tachycardia is probably due to paroxysmal hyperfunctioning of the thyroid. The influence of the thyroid on vascular affections is a further field that will repay study.

46. A similar article by this author was abstracted in The Journal, June 26, page 2120.

Semaine Médicale, Paris

June 9, XXIX, No. 23, pp. 265-276

49 *Sub-hepatic Peritonitis in Pathogenesis of Hernia. R. Tripier and J. Paviot.

49. **Subhepatic Peritonitis in Pathogenesis of Hernia.**—Tripier and Paviot call attention to the unsuspected frequency of subhepatic adhesive peritonitis and to its importance as a factor in hernia. Traces of such a process were discovered constantly in their last series of eighteen cases of hernia, and they maintain that it is probably responsible for the weakening of the tissues that entails the hernia. The inflammation around the sac has hitherto been regarded as secondary, but careful study shows that it can be traced to a primary focus above.

Berliner klinische Wochenschrift

May 24, XLVI, No. 21, pp. 957-1004

50 Modern Treatment of Diabetes. (Behandlung der Zuckerkrankheit.) G. Rosenfeld.
51 Alimentary Lipemia. J. Leva.
52 Sugar of Milk of No Value in Infant Feeding. (Welchen Wert hat Milchzucker für die Ernährung der Säuglinge?) R. Weigert.
53 An Atypical Colon Bacillus Responsible for Certain Disorders. (Nachweis eines atypischen Bacterium coli als Krankheitserreger beim Menschen.) C. Schöne.
54 *Action of Ultraviolet Rays on the Eye. (Wirkung der ultravioletten Lichtstrahlen auf das Auge.) F. Schanz.
55 Technic and Nature of Seroreaction in Syphilis. (Zum Wesen der Wassermannschen Reaktion.) F. Lesser.

May 31, No. 22, pp. 1005-1052

56 *Diagnosis and Treatment of Tuberculosis of Urinary Apparatus. (Blasen- und Nierentuberkulose.) L. Casper.
57 Nephrolithotomy or Pyelotomy? M. Zondek.
58 Influence of Hydriatic Measures on Size of Heart. (Einfluss hydriatischer Prozeduren auf die Herzgrösse.) A. Selig.
59 Antitrypsin Content of Blood of Mother and Child. (Antitrypsingehalt des mütterlichen und kindlichen Blutes.) G. Becker.
60 Vaccine Therapy. G. Wolfsohn.
61 *Atrophy of Optic Nerve from Atoxyl and Arsacetin. (Augenerkrankungen durch Atoxyl und Arsacetin.) Paderstein.

54. **Action of Ultraviolet Rays on the Eyes.**—Schanz emphasizes the injurious action of the ultraviolet rays on the eyes and the means to attenuate it. Glass, such as is used in photography to filter the light, is useful in eye-glasses to keep out the ultraviolet rays, and he advises the use of glass of this kind for lamp chimneys, electric light bulbs, etc. The artificial lights in use are rich in ultraviolet rays, and generate more, the higher the temperature of the illuminating body. Ultraviolet rays with long waves induce fluorescence in the lens and retina, and tests of this property can be utilized in standardizing the glass.

56. **Urogenital Tuberculosis.**—Casper asserts in the conclusion of this review of his extensive experience that tuberculosis of the kidney always commences on one side and generally remains unilateral for years. Primary tuberculosis of the bladder is extremely rare. Every effort should be made for an early diagnosis, with careful examination in every case of unexplained suppuration or hemorrhage in the urinary passages, and surgical treatment in every operative case. Conservative tuberculin treatment has not to date proved its efficiency, but, after removal of the infected kidney, tuberculin may aid materially in the cure as an adjuvant to instillation of 10 c.c. of a 1/20,000 solution of mercuric chlorid; the next week, 9 c.c. of a 1/15,000, and so on down to 5 c.c. of a 1/1,000 solution, only one instillation a week.

61. **Atrophy of Optic Nerve under Atoxyl Treatment.**—Paderstein tabulates the details of thirteen cases of visual disturbances under atoxyl treatment, including one from his own experience, and Ruete's case of blindness from arsacetin. Total blindness developed in four cases, and only one patient recovered completely; the others were left with considerable contraction of the visual field. The arsenic element is probably responsible for the disturbances.

Correspondenz-Blatt für Schweizer Aerzte, Basle

April 15, XXXIX, No. 8, pp. 257-288

62 *Treatment of Tuberculosis of the Lungs. (Behandlung der Lungenschwindsucht.) H. Erni.

May 1, No. 9, pp. 289-328

63 *Surgery of the Bile Passages. (Chirurgie der Gallenwege.) F. Brunner.
64 *Diphtheria and Antitoxin. (Diphtherie und Heilserum.) P. Schönholzer. Commenced in No. 8.

62. **Treatment of Tuberculosis by Therapeutic Percussion.**—Erni is convinced that the tuberculous process in the apex is spread by mechanical influences, especially by aspiration of the secretions into the bronchi. The cough is seldom powerful enough to expel all the secretion and a focus develops where it stagnates. Retention of the secretion is thus the main fac-

tor in the spread of the tuberculous process. If the secretion can be completely drained away, no secondary processes develop. Treatment should aim, therefore, at mechanical drainage, though the best way to ensure this is still a problem. As an attempt to solve it he applies a systematic course of tapping or knocking on the region—the *Klopfkur*—and the results in 82 cases in the course of fourteen years' experience have been almost constantly good. It is the best means of which he has knowledge for ensuring copious expectoration and effectual drainage, but he hopes that some still more effectual method may yet be discovered. He supplements the therapeutic percussion with inunction of a salve over the lung, containing equal parts of turpentine, salicylic acid and lanolin, ½ part white wax and about 5 parts lard. This is used as for mercurial inunctions, striving thus to disinfect directly the blood vessels and lymph passages in the region beneath. That this is accomplished to a certain extent is shown by the appearance of the drugs in the urine. They do not appear in the sputum as when given internally, but the tuberculous are far too much inclined, he says, to dose themselves with drugs internally and thus ruin their already weak digestion.

63. **Surgery in Gallstone Disease.**—Brunner reports 43 operations on the biliary apparatus in the last ten years, with the remote outcome. Jaundice was the most reliable symptom of gallstone trouble, being found in 65 per cent. of the cases; typical colic in 46 per cent.; pains in the gall bladder region in 35 per cent., and in the stomach in 54, while a tumor was palpable in 43 per cent.

64. **Antitoxin Treatment of Diphtheria.**—Schönholzer has been assistant at Krönlein's clinic at Zurich for 28 years, 14 before the introduction of serotherapy of diphtheria and 14 since, and thinks that the present is thus an auspicious moment for reviewing the results of antitoxin treatment. The total number of cases was 3,322 and the mortality 800. The mortality has dropped from 39.7 per cent. in the first period to 13.39 per cent. of all cases in the antitoxin period, and, in the cases with operative treatment, from 66.16 per cent. to 32.54 per cent., and in the medical cases from 14.24 to 6.82 per cent. He is inclined to believe that diphtheria nowadays is less malignant in nature, on the whole, than during the first period.

Deutsche medizinische Wochenschrift, Berlin

May 27, XXXV, No. 21, pp. 913-960

65 *Differentiation of Acute Eruptive Diseases. O. Heubner.
66 *Intravenous Injection of Strophanthin. (Intravenöse Strophanthintherapie bei Verwendung von gratus-Strophanthinum crystallisatum Thoms.) P. Fleischmann and H. Wjasmensky.
67 *Indirect Solvent Influence of Radium on Urates. (Einfluss von Radium auf die harnsauren Salze.) F. Gudzent.
68 *Mixed Tuberculin. (Mischtuberkulin. Polygene Bazillen-Emulsion.) D. Rothschild.
69 Development of Trypanosomes in Glossina. (Weitere wissenschaftliche Beobachtungen über die Entwicklung von Trypanosomen in Glossinen.) Kleine.
70 *Transient Hemiplegia with Migraine. O. Renner.
71 Typical Fractures of the Wrist. (Typische Brüche von Handwurzelknochen.) Granier.
72 *Influence of Uterine Myoma on Childbirth. (Einfluss der Uterusmyome auf die Geburt.) M. Jacoby.
73 Unreliability of Stain Reaction in Diagnosis of Syphilis. (Zur Kritik der Schürmannschen Farbenreaktion bei Lues.) Schminke and Stoeber. Id. E. Meirowsky.

65. **Differentiation of the Acute Eruptive Diseases.**—Heubner calls attention to serum disease as possibly causing confusion, but it should be suggested by the swelling of the glands, beginning with those in the inguinal region, the leucopenia, the increase in weight as sign of general edema, and the absence of an enanthem in the mouth and throat. He has observed, himself, only one case of the desquamating scarlatiniform erythem distinguished by the tendency to recurrence from six to nine times or more. In concluding his review of the various diseases he dwells on the great importance of a biologic test for differentiation of scarlet fever in an early stage, his experiments in this line being promising, as also those reported lately by Handel and Schultz. The latter obtained positive findings with the complement deviation test in 24 of 31 cases of scarlet fever.

66. **Intravenous Injections of Strophanthin.**—This communication from the clinic of Professor His reports favorable results from intravenous strophanthin therapy in 32 cases. In certain acute and chronic weaknesses of the circulatory system the strophanthin gave better results than any other drug. It is important to bear in mind the possible action of digitalis previously taken, its effects not having yet died out.

67. **Indirect Solvent Influence of Radium on Urates.**—Gudzent announces that his research has shown that uric acid circulates in the blood only in the form of a salt—mono sodium urate—and that this sodium urate is responsible for gout. Uric acid forms two primary salts distinguished only by their solubility, the *a* salt being the most soluble. Radium will prevent the transformation into the second, less soluble form, and will even transform the latter back into the *a* form. His experiments have confirmed this fact, proving the possibility of transforming by the action of radium the less soluble sodium urate in the tissues back into the first form, which is twice as soluble.

68. **Mixed Tuberculin.**—Rothschild cites a number of cases in which tuberculin was used; "old" tuberculin in 52 cases with 40 per cent. cured and 32.7 per cent. improved, and "mixed" tuberculin in 26 cases with 54 per cent. cured and 42 per cent. improved. The "mixed" tuberculin is made from seven different strains of human tubercle bacilli, and he regards this use of several different cultures as a decided progress in the means of stimulating the production of truly specific antibodies.

70. **Transient Hemiplegia with Migraine.**—Renner ascribes migraine to a vasomotor spasm in the cortical centers. This assumption is sustained by the three cases reported in which periodically recurring migraine was accompanied by hemiplegic conditions which vanished with the other typical symptoms of the migraine within a short time. The transient nature of the hemiplegia speaks in favor of the vasomotor theory.

72. **Influence of Uterine Myoma on Childbirth.**—Jacoby relates some experiences which show that subserous myomas do not entail any special danger during delivery except when they are located in the cervix. At this point they may prevent delivery by the natural route, although there is a possibility that during labor they may be pushed out of the small pelvis, thus leaving the passage free, as in a case described. Submucous myomas sometimes lead to placenta prævia, in which case the placenta is usually attached to the inner aspect of the myoma. As a further result of the changes in the endometrium the placenta may become pathologically adherent to the wall of the uterus.

Fortschritte der Medizin, Leipsic

May 20, XXVII, No. 14, pp. 529-560

74 Case of Oxycephalia with Atrophy of the Optic Nerve. (Turmschädel mit Sehnervenatrophie.) E. Levi.

Jahrbuch für Kinderheilkunde, Berlin

May, LXIX, No. 5, pp. 505-624

75 Atelectasis of the Lungs. (Lehre von der Lungenatelektase.) E. Ungar.
76 *Treatment of Cholera Infantum with Carrot Soup. (Behandlung der Cholera infantum mit Mohrrübensuppe.) C. Beck.
77 Epidemic of Glandular Fever. (Drüsenfieber Pfeiffer.) K. Schäffer.
78 *Stenosis of the Pylorus in Infants and Children. (Pylorusstenose im Säuglings- [illegible] eim-Karrer.
79 *Meningeal Phenomena a[illegible] ous Pneumonia in Children. [illegible] und bakteriologische Untersuch[illegible] Pneumonie der Kinder.) M. Otten.

76. **Carrot Soup Treatment of Gastrointestinal Disturbances in Infants.**—Beck reports 85 cases of various gastrointestinal affections in children in which he restricted treatment to a change of the diet to carrot soup. It seems to transform the intestinal flora and thus to arrest gastrointestinal trouble. A pound of carrots is chopped and boiled for an hour or two, mashed and forced through the finest sieve and added to beef tea made by extraction, cold, of a pound of beef in about a quart of water, adding a teaspoonful of salt. The sweet taste of the carrots is relished by the children, and the soup is nourishing, containing about 250 calories to the quart. The child is allowed to drink as much as it wants to after taking the soup, which is given at intervals of three or four hours. One of the chief advantages is that it sup-

plies material for stools so that the intestines do not get out of the functioning habit as on a pure water diet. A number of case histories are appended, which, he says, speak for themselves as to the value of this treatment which gave good results in his hands in the majority of cases.

78. Stenosis of the Pylorus in Children.—Karrer gives the tabulated details of 7 additional cases of stenosis of the pylorus which show that even after apparent cure of the trouble the anatomic basis may still persist. In the majority of his cases distinct motor insufficiency was evident two or three years later, with much hyperacidity. As there were no symptoms from this condition he thinks that spasm of the pylorus may be excluded. His experience with these and with a number of other cases has convinced him that congenital hypertrophy of the pylorus may cause no signs of trouble for months or even years.

79. Croupous Pneumonia in Children.—Otten reviews his experience with 250 cases of croupous pneumonia in children since 1897. The number of cases has shown a constant increase each year. An initial chill was known in only 39 of the cases and sharp pain in the chest in only 60. As children frequently locate the pain wrong, 4 of the patients were sent to the hospital with the diagnosis of acute appendicitis. Stomach and intestinal symptoms are much more frequent in pneumonia in children than in adults. About a third of the children had colic, vomiting and diarrhea at first. Meningeal symptoms are characteristic of the disease in children, and 34 of the 250 children had brain symptoms during the course of the disease, unconsciousness, delirium, hyperesthesia, stiff neck, etc. The fever was continuous in some, remittent in others or irregular, and the retrogression of the lung process occurred more rapidly than in adults. Sputum was obtainable only in 15 cases. Spinal puncture gave insight into conditions in the meninges. Pneumococci were found in the blood in 9 of the 70 children thus examined, and 5 of the 9 succumbed to the disease. The blood count was taken in 72 cases and leucocytosis was found in about half, generally proportionate to the extent of the pneumonic process. If it keeps high as the disease subsides some hidden suppuration may be surmised. The mortality in the 250 cases was 6 per cent.; one child died from an abscess in the lung; 2 children died from suppurative meningitis; 2 from kidney complications, and 7 from complications in the pleura or pericardium. In one case the pneumonia was evidently the work of the *Streptococcus mucosus*, which was cultivated from the blood.

Medizinische Klinik, Berlin

May 23, V, No. 21, pp. 759-800

80 Microsporon Epidemic. (Die Mikrosporieepidemie in Schöneberg.) Huber.
81 Febrile Manifestations in Late Stage of Syphilis. (Fiebererscheinungen in den Spätstadien der Syphilis.) O. Imhof-Bion.
82 Treatment of Tabes Dorsalis. G. J. Müller.
83 Menstrual Hyperemia in the Liver. Pregnancy Liver. (Menstruelle Leberhyperämie Schwangerschaftsleber.) O. O. Fellner.
84 Pain in the Heart, and Means of Relieving It. (Herzschmerz.) A. Selig.
85 Leather Apparatus for Extension. (Lederstreckverbände aus Chrom- oder Formalinleder als chirurgische und orthopädische Universalapparate.) Evler.
86 Importance of Combination of Mercurial Treatment with Sulphur Baths. (Ist die Kombination von Quecksilberkuren mit Schwefelbädern rationell?) R. Schuster.
87 Distribution of Radium Emanation in the Atmosphere. A. Gockel.

May 30, No. 22, pp. 801-836

88 *Cholecystitis. O. Föderl.
89 *Causes of Nervousness: Treatment and Prophylaxis. A. Cramer. Commenced in No. 21.
90 Does the "Minimum" Law Apply to Lime and Iron? (Gilt v. Bunges Gesetz des Minimums für Ca und Fe?) W. Stoeltzner.
91 Iodized Benzin for Disinfection. (Verwendung des Heusnerschen Jodbenzins.) Esau.
92 *Adequate Nourishment and Capacity of Assimilation. (Adäquate Ernährung und Assimilationsfähigkeit des Organismus.) A. Sperling
93 *Radioactive Sediment in Kreuznach Mineral Waters. (Gewinnung Radioaktiver Substanzen aus den Rückständen der Kreuznacher Quellen und ihre therapeutische Verwendung.) F. Engelmann.
94 Uterine Douches of Superheated Air. (Heissluft-Uterusduschen.) P. Grabley.
95 *Experimental Research on Motor Functioning of Stomach. (Zur Lehre von der Motilität des Magens.) H. Roeder.
96 Practical Application of Opsonin Control in Tuberculosis. (Notwendigkeit der Opsonin-Kontrolle bei Behandlung Tuberkulöser.) D. Rothschild.

88. Gall Bladder Disease.—Föderl concludes his review of cholecystitis with the remark that when the gall bladder is incapable of normal functioning in consequence of serious changes it is not only useless but is a decided source of danger which it is safer to remove. He always examines the appendix, if possible, in operating for gallstones, and found periappendicular changes in the majority of cases. He has also encountered a number of cases of recurring gall bladder inflammation in patients whose appendix had previously been removed. The same cause responsible for the recurring appendicitis was probably responsible also for the recurring cholecystitis.

89. Causes and Treatment of Loss of Nervous Balance.—Cramer explains the tendency to undue nervousness as the result of over-fatigue of the neuron, either from excessive demands on it or from morbid readiness to fatigue. When the balance between assimilation and outgo is disturbed the neuron is unable to recuperate fully during rest and sleep and grows more and more readily irritable. The causes for the disturbance may be endogenous or exogenous; the former includes all cases with traits of hysteria. He regards the compulsory term of military service as a great blessing for the young men of the nation, compelling them to habits of exercise and hygiene which would be sadly missed in case military service were abolished. He concludes his article with an appeal for sanatoriums for nervous prostration among those unable to pay much if anything for treatment such as the rich now have at their command. A few sanatoriums of this kind would aid materially in the prophylaxis against insanity and would restore large numbers of the predisposed to health.

92. Capacity of Assimilation.—Sperling points out that repeated overdistention of the stomach finally stretches the tissues a little beyond what their elasticity can repair; the gland substance is thus stretched a little, the blood vessels, mucosa, nerves and serous covering all experience a little disturbance from the stretching, merely molecular at first, but then follow retention and stagnation of food, blood and lymph. The resulting disturbances are generally at first classed as purely nervous, but they deserve closer study and proper differentiation; the diet should be regulated to prevent their development. Almost all kinds of disturbances in the health commence first, as a rule, in the digestive tract, including those generally classed now as "purely nervous." The food should be chosen to ensure assimilation, and the amount reduced to correspond to the digestive forces.

93. Radium Emanations in the Kreuznach Waters.—Engelmann reports therapeutic experiences with the waters and sediment which are known to be very rich in radium emanations. These radium baths were given to 234 patients—a total of 2,595 baths, the principal indications being rheumatism, sciatica, neuralgia, gout and resorption of pelvic exudates. The results are considered as very promising.

95. Motility of the Stomach.—Roeder has been conducting extensive research on the motor functioning of the stomach in dogs with a Pawlow fistula, mainly to determine the influence of physiologic, chemical and thermic stimulation on the motility of the stomach. Carbonic acid proved to have a marked influence in stimulating the motor functioning, as also a temperature above or below that of the body and a higher or lower osmotic pressure. Physiologic salt solution is much longer in leaving the stomach than a hypotonic or hypertonic solution; this was observed even when the temperature was warmer or cooler than that of the body.

Münchener medizinische Wochenschrift

May 25, LVI, No. 21, pp. 1057-1112

97 *Otitis Media and the General Practitioner. (Drei Vorträge aus dem Gebiete der [illegible] Schwartze.
98 *Importance of Cammidg[illegible] Indications for Treatment of Gallst[illegible] Cammidgeprobe in der Indikationsstellung bei der Gallensteinkrankheit.) H. Kehr.
99 *Treatment of Paralysis of the Arm. (Behandlung der Lähmungen an der oberen Extremität.) O. Vulpius.
100 Copper in Canned Foods. (Ueber Kupferung von Konserven.) K. Spiro.
102 Instantaneous Roentgen Exposures. (Röntgenmomentaufnahmen.) F. Dessauer.
103 *Importance of Seroreaction in Syphilis. (Bedeutung der Wassermannschen Serodiagnose für die Praxis.) A. Neisser.

97. **Otitis Media and the General Practitioner.**—Schwartze relates unfavorable experiences with constriction hyperemia in suppurative disease of the middle ear. Notwithstanding the relief of pain after application of the elastic band to the neck, the work of destruction still goes on, and sudden chill and fever may reveal the development of thrombophlebitis. This hyperemic treatment is permissible only in the mildest cases, free from suspicion of intracranial complications. Massage may be useful to promote absorption of exudates and in relief of tormenting subjective sounds in the ear, and he advises it as an adjuvant to other measures, especially when the lymph glands in the side of the neck and below the mastoid process are enlarged. The various apparatus on the market for instrumental massage have never induced permanent benefit in his experience, and it is possible that their incautious use may do harm. A little temporary benefit may be derived in cases of incipient ankylosis of the ossicles or adhesions. In treatment of otosclerosis he has never witnessed striking benefit from potassium iodid, but in cases of syphilitic labyrinthitis less than six weeks in duration prompt recovery follows mercurial inunctions; labyrinthine deafness of longer standing is generally incurable. He has frequently obtained good temporary effects in otosclerosis, especially with simultaneous hyperemia of the labyrinth wall, by systematic sweating with hot air baths. This relieves the congestion in the temporal bone and inflammation is favorably influenced. He has never witnessed any harm from the superheated air applied to the patient in bed; the effect on the heart, of course, is watched. Little is to be hoped from technical-mechanical and operative measures in otosclerosis, but it is a broad field for rational internal treatment of the true cause—the dyscrasia —by general treatment, tonic, revulsive, soothing or antirheumatic, not forgetting the frequently accompanying neurasthenia. Warm saline baths and courses of mineral waters are also useful. Cold water treatment should be avoided, especially sea bathing. He advocates leeches for beginning acute otitis media; they are applied in front of the tragus, over the large venous plexus. This not only relieves the pain, but aborts the inflammation and wards off suppuration. If there is already tenderness at the mastoid process or edema, leeches are contraindicated and the ice bag behind the ear or incision is required. He defends the use of leeches, citing the ophthalmologists to show that they are indispensable in certain cases.

98. **Cammidge Test in Gallstone Disturbances.**—Kehr reports instructive findings with the Cammidge test in 58 cases of gallstone affections in which secondary injury of the pancreas was suggested by the symptoms. In 22 cases in which he operated, the findings of the test were confirmed by the operation in all but 2 instances; in one of these there was a cancer in the common bile duct. The other case suggests that the test is more reliable in the chronic form of pancreatitis than in the acute, as constantly negative Cammidge findings were obtained, although symptoms and operative findings indicated sudden, acute necrosis of the pancreas.

99. **Treatment of Paralysis of the Arm.**—Vulpius describes the relief of severe functional disturbances by correcting the excessive inward rotation after separation of the epiphysis: this is accomplished by osteotomy of the humerus at the point of attachment of the deltoid muscle, followed by plaster immobilization in extreme outward rotation and horizontal abduction. The success in the two cases described commends this osteotomy of the shaft for all such cases of false and true obstetric paralysis of the arm.

103. **Serodiagnosis of Syphilis in General Practice.**—Neisser reiterates that the Wassermann test reveals syphilis with such certainty that nothing would induce him to dispense with it now. Positive findings are a distinct symptom of existing syphilis and repeated negative findings are extremely valuable for a favorable prognosis, although the test is not infallible in every case. It is as important for the general practitioner as the microscope for gonorrheal secretions.

Therapeutische Monatshefte, Berlin

June, XXIII, No. 6, pp. 297-352

104 Importance and Measurement of Resistance of Human Skin to the Galvanic Current. (Phorometric.) F. Fraukenbäuser.
105 Negative Action of Tobacco Smoke on Aorta in Tests on Rabbits. (Zur Frage der Tabakrauchwirkung auf die Aorta.) A. Ollendorff.
106 *Action of Bitters on Absorption in Digestive Tract. (Wirkung der Bitterstoffe auf die Resorption.) W. Heubner and K. Rieder.
107 Middle Ear Disease in Infants, especially those with Nutritional Disorders. (Die klinische Bedeutung der Otitis media des Säuglingsalters insbesondere beim ernährungsgestörten Kinde.) H. Rietschel. Commenced in No. 5.
108 *Hydriatic Treatment of Burns and Other Defects in the Skin. (Hydriatische Behandlung von Hautdefekten.) W. Wirz.

106. **Influence of Bitters on Absorption.**—Heubner and Rieder relate experiments which seem to indicate that the influence of bitters on the digestion is the result of their action on the motor function of the stomach. Animals taking small amounts of bitters continuously had the stomach filled with food even fifteen hours after the meal. In many cases of stomach trouble, retention of the food in the stomach for a certain time may favor its digestion. This may explain reflux of the bile into the stomach, sometimes observed with food that is difficult to digest, and also the craving for bitters at times.

108. **Treatment of Burns and Other Defects in the Skin.**—Wirz has been successful during the last fifteen years with hydriatic treatment of burns, etc., according to the method introduced by Winternitz, but which has not been adopted as widely as it deserves. The aim is to relieve the pain and to supply an artificial skin, that is, to cover the defect with a substance that answers the same purpose as the skin. The substitute for the skin which assumes its functions best is a piece of thin linen fitting close over the defect and held immovable by strips of plaster around the edges or applied as a roller bandage. This linen is left for two or three days, kept constantly moist and cold by a compress above, six or eight layers thick, renewed at first every minute, as the cold reduces the pain. Later the intervals can be lengthened to five minutes or longer, and by the second day the compress may not need renewing for hours at a time. A temperature of 50 F. is most effectual at first, but later up to 68 F. may be used. The congestion must be combated by bed rest, the burned part raised a little. This dressing supplies a perfect cover for the wound, protecting the exposed terminals of the sensory nerves from irritation; the secretions become organized under this protecting shield, so that the resulting scar is much less disfiguring than with other technics. This method makes great demands on the attendants, but the more rapid healing and the fine cosmetic results repay the extra care. Winternitz leaves the linen for a week, merely rinsing it frequently, but Wirz changes it by the third day.

Therapie der Gegenwart, Berlin

May, L, No. 5, pp. 217-264

109 *Treatment of Cerebral Paralysis. (Therapie zerebraler Lähmungen.) M. Rothmann.
110 Historical and Critical S[illegible] Pneumothorax in Pulmonary [illegible] Pneumothorax bei Lungenschw[illegible]
111 Action of Glutaric Acid on Phloridzin Diabetes. (Wirkung der Glutarsäure auf den Phloridzindiabetes.) G. G. Wilenko.
112 *Nervousness in Children. (Kindernervosität und Nervöse Kinder.) A. Baginsky. Commenced in No. 4.
113 The Newer Methods of Anesthesia. (Ueber neuere Anästhesierungsmethoden.) W. Busse.

109. **Cerebral Paralysis.**—Rothmann mentions in the course of this study that treatment should be in three phases: first directed against the incipient flaccid paralysis, then aiding to assist restoration of motor functioning, and, finally, the combating of the residual hemiplegic paralysis. The first absolute indication is to keep the head still during the first few days after the stroke, but the position of the arms and legs must be carefully supervised. The tendency in hemiplegia to turn on the paralyzed side causes the paralyzed limbs to be compressed and injured if the compression is long kept up. It is necessary, therefore, to attend to the position of the leg and arm, possibly holding them in place by straw cushions. Passive movements of the limbs should also be carried out from the very beginning. This prevents development of painful affections in the joints, especially in the shoulder, which otherwise are liable to occur from the traction of the relaxed capsule of the joint. The systematic passive movements also aid in the restoration of function in the lower motor centers in the brain. Cautiously done, no injury on the brain process

need be feared. Massage helps materially to promote the process of restitution in the paralyzed vasomotor nerves. The position of the leg should be regulated by its most important function as the support for the body, and thus it should be extended, while the arm requires extension of the hand and fingers to prevent contracture. If the constant current is applied in these early stages the muscles in the arm and leg are aided in restitution which occurs spontaneously only very late or not at all. *After the first active movements have* appeared, they must not be exercised too much. On the contrary, *it is important to begin over again each time*, first placing the limb in the proper position, then passive movements, galvanization, massage and efforts to induce active innervation, thus striving to act on the weaker groups of muscles which are less inclined to restitution. The first active movements should be extensive, co-ordinated ones, not single movements. Stimulation of the cortical motor center, cultivation of still existing connections with the cortex and of the innervation of the different groups of muscles of the arm and leg—these points in treatment of cerebral hemiplegia lead to good results.

112. **Nervousness in Children.**—Baginsky gives a comprehensive review of the various abnormal manifestations of nervousness in children as observed in his own practice, discussing the causes, treatment and prognosis of all kinds of functional and organic nervous disturbances. Among the points emphasized is the necessity for investigating the environment in every case. This he does *before concentrating* his attention on the child, and reports several striking cases to show the necessity for this. The most remarkable, perhaps, was the case of a girl of 12 whose brother-in-law summoned him *on account of habit spasms*. The man was a physician from Russia and displayed a pronounced tic as he spoke. Arrived at the house, the young man's wife presented the same tic, which was also the trouble in the girl. Each member of the family had the same pronounced spasmodic movements, but each disregarded his own tic while urging medical aid for the others. The only treatment would have been to separate the entire family and treat each member in a different environment, but this was refused, and Baginsky gave up the case, the family leaving town with their tics unmodified. The lesson from this case has proved a great help in treating others; as a rule, the children are not the ones that are sick, but rather the adults with whom they live. He has noticed that the children in the families of stock brokers, lawyers and merchants with a tendency to neurasthenia, are distinguished by unusual restlessness and impatience. The vasomotor innervation in these families is more unstable, and the tendon reflexes are exaggerated. It has always seemed to him that the father participates more in bequeathing this nervous tendency than the mother. In one case the apparently normal child cried constantly, night and day. He examined the child repeatedly, but nothing could be found to explain its trouble, and the child seemed to be thriving. The explanation developed by the end of the year in the appearance of an itching urticaria resisting all treatment until the child gradually grew out of it in its third year. It had probably been born with an itching in the skin, which gave no objective signs for months. In regard to the influence of alcohol, he mentions a case in which a healthy child in the family of an ambassador suddenly developed convulsions recurring at regular intervals and probably to be ascribed to the bottle of red wine given the wet nurse occasionally as a special treat. She was accustomed to wine, but as soon as the red wine was discontinued the child's attacks of convulsions ceased. He insists on the importance of preparing a child for an operation or other intervention, as the nervous shock from the surprise of an unanticipated operation on tonsils or adenoids is liable to induce severe nervous depression, persisting for months. He has witnessed a number of cases of this intense nervous depression in the children of Russian refugee families, which it will require years to overcome. Entire loss of appetite seldom reaches such intensity as in one of his cases in which an otherwise healthy little girl of 4 or 5 refused to eat and vomited what she was compelled to take, finally succumbing to inanition. Nervous torticollis has frequently led to useless operations, but its sudden appearance and spontaneous disappearance and recurrence indicate its nervous nature. Nervous joint affections are distinguished by the lack of signs of inflammation. Treatment should be by the gentlest measures, winning the confidence of the child. Keeping him in bed sometimes has as favorable an action as with adults. Children must always be *told beforehand* and prepared for whatever is to be done. Institutional treatment may work wonders in the severer cases. *The aim in treatment should be to avoid* unnecessary therapeutic measures but, if they are required, *not to shrink from energetic means. Sympathy, paternal* pedagogic earnestness and infinite patience are the key to success.

Virchow's Archiv, Berlin

May, CXCVI, No. 2, pp. 193-384

114 Atresia of Small Intestine. (Zur Frage der kongenitalen Dünndarmatresie.) S. Ciechanowski and L. K. Glinski. *Commenced in No. 1.*
115 Multiple Internal Deformities in an Infant. (Multiple Hemmungs- und Defektbildungen bei einem neugeborenen Kinde.) M. Koch.
116 Genesis of "Starchy Bodies" in the Lungs. (Genese der Corpora amylacea in den Lungen des Menschen.) K. Nunokawa.
117 *Nature of Arteriosclerosis. (Wesen der Arteriosklerose.) T. Sumikawa.
118 *Cause of Arteriosclerosis. (Ursache der Arteriosklerose.) W. H. Harvey.
119 *Connection between Kidney Edema and Arteriosclerosis. (Beziehungen des renalen Oedems zur Arteriosklerose.) A. Heineke.
120 Fat in Interstices in the Kidney Medulla. (Fett im Markinterstitium der Niere.) P. Prym.
121 Genesis of Tumors. (Genese der Geschwülste beurteilt nach den Erfahrungen der Missbildungslehre.) E. Schwalbe.
122 *Multiplicity of Primary Malignant Tumors. Metaplasia. K. Beck.
123 *Tumors in the Pleura. Ribbert.*
124 Mucus-Forming Cystadenoma in the Bladder. (Ein schleimbildendes Cystadenom der Harnblase.) R. Bayer.
125 *Genesis of Metastatic Carcinoma in the Peritoneum. J. Misumi.*

117-118. **Nature of Arteriosclerosis.**—Sumikawa reports the microscopic findings in 96 cases of arteriosclerosis, showing that the trouble is a chronic, hyperplastic inflammation, *commencing in the deepest layer of the intima. The intima* tissue is less compact than the other parts of the artery wall and there is thus a little discrepancy between the stretching and elastic contraction of these layers, setting up irritation both laterally and longitudinally as the walls expand and as the blood stream forces the looser tissue along with its current. Harvey describes research which ascribes arteriosclerosis to changes in the blood pressure, his experiments confirming the close connection between high blood pressure and the affection.

119. **Connection Between Dropsy and Arteriosclerosis.**—Heineke reports a case which demonstrates anew the close connection between contracted kidney and arteriosclerosis of the small arteries in the organs. His patient was a comparatively young woman and the extreme arteriosclerotic changes in the large vessels developed promptly after the dropsical kidney affection had settled down into a chronic *phase. The small and medium arteries to the organs were* normal but the large and medium arteries in the limbs were in advanced sclerosis. The kidney affection had lasted *only* fourteen months in this case, and he is convinced that kidney affections with a tendency to dropsy are peculiarly liable to be accompanied by arteriosclerosis. The same kidney affection, if unaccompanied by dropsy, does not entail arteriosclerosis in the young, even when the blood pressure is extremely high, while, with the dropsy, the arteriosclerosis rapidly develops.

122. **Multiple Primary Malignant Tumors.**—Beck reports a case and comments on the rarity of such occurrences. He is inclined to attribute this rarity to a possible immunization of the system from the first malignant growth, preventing the development of others as a rule.

Wiener klinische Wochenschrift, Vienna

May 20, XXII, No. 20, pp. 699-736

126 Augenbrugger, the Inventor of Percussion. (Leopold Augenbrugger.) M. Neuburger.
127 Experimental Arteriosclerosis. A. Biedl and L. Braun.
128 *Functioning of the Kidneys and Prostatectomy. R. *Paschkis.*
129 Hydatid Cysts in the Thyroid. (Zwei Fälle von monolokulärem Echinokokkus der Schilddrüse.) R. R. V. *Ultzmann.*
130 Anatomic and Clinical Conception of Arteriosclerosis in Its Relation to Certain Morbid Conditions in the Skin. K. Ullmann. Commenced in No. 19.

May 27, No. 21, pp. 737-770

131 *The So-called "Uric Acid Pains." (Harnsäureschmerzen.) F. Pineles.
132 *Cardiospasm. W. Zweig.
133 Habitual Constipation. (Klinisches und Experimentelles zur Lehre von der chronischen habituellen Obstipation.) E. Biernacki.
134 Nature of Complement-binding Substances in Syphilis. (Natur der komplementbindenden Stoffe bei Lues.) H. Toyosumi.
135 Idiopathic Epiphora of Nasal Origin. J. Weleminsky.
136 *Prognosis of Acute Anterior Poliomyelitis. M. Berliner.

128. **The Functioning of the Kidneys and Prostatectomy.**—In this communication from Zuckerkandl's surgical service, read at the recent German Urologic Congress, Paschkis gives the details of sixteen cases of retention of urine from enlargement of the prostate in which systematic chromocystoscopy revealed the actual functional capacity of the kidneys. It was thus possible to sift out the cases in which the lesions were irreparable and prostatectomy offered little chance of relief. The urine was examined for chlorids, urea, specific gravity and albumin, and then 4 c.c. of a 4 per cent. suspension of indigocarmin in salt solution was injected into the gluteal muscle, and the interval before the blue tint of the urine became apparent, the intensity of the tint and the length of its appearance were all noted. When this indigocarmin test shows that conditions are improving under systematic catheterization or permanent drainage, the course of the case confirms the assumption that the kidneys are capable of approximately normal functioning. It is amazing, he says, to note the improvement in patients so debilitated that permanent lesions of the kidneys seemed more than probable. Systematic repetition of the indigocarmin test will reveal the cases in which prostatectomy promises permanent benefit, thus avoiding an important factor in the mortality. In four of his cases the test showed impairment of kidney functioning at first, but improving rapidly under treatment, and after the prostatectomy the test gave constantly normal findings, showing that the prostatectomy had induced complete restitution, confirming the subjective and objective benefit of the operation.

131. **"Uric Acid Pains."**—Pineles has been studying these pains in 110 cases besides 17 other cases in which an organic lesion was found to explain them. His analysis shows that, in two-thirds of these cases, these uric acid pains are in reality painful sensations connected with functional disturbances in the sexual apparatus, and this is also probable in many of the others. There is a great difference between them and the pains of true gout, both in regard to the age and sex, the location of the pain and the purin metabolism; not a single feature shows any connection between them and the uric acid metabolism, while everything favors the assumption of a genital pseudo-gout which may be classified as a climacteric, senile and nervous.

132. **Cardiospasm.**—Zweig states that psychic influences are important in treatment; the patient must be tranquilized and taught to practice swallowing movements before meals, as this helps in relaxing the cardia. Diversion during the meal, change of the meal hours and change of environment will sometimes help to cure. One of his patients was freed from the spasm when he ate alone in his room. The moment any one looked at him while he was eating the spasm recurred. Regulation of the diet is important; some patients do better with solid foods and others with fluid. A tablespoonful of pure olive oil before the meal in some cases prevents the contraction. Instead of the pure oil, a mayonnaise of oil and eggs is sometimes taken with less repugnance. The food must be soft and prepared with a great deal of butter or cream. Sedatives may do good in the mild cases, especially belladonna. In the chronic cases the accumulated mucus and débris must be thoroughly washed out, with, possibly, instrumental dilatation of the cardia. He has treated a patient in this way, with an inflatable bag, with excellent results, but this treatment has to be repeated now and then as no instance of a permanent cure by this means has been reported. Dilatation through the opening in the stomach has been successfully done in 12 cases on record. On the whole, he regards chronic cardiospasm as a serious condition, with an unfavorable prognosis in respect to its curability.

136. **Prognosis of Poliomyelitis.**—Berliner gives the details of 14 cases at Vienna last fall. Four of the children died but the others recovered under salicylate and electricity, the improvement sometimes not appearing until after several months. Electric treatment was certainly an important factor in the recovery, each sitting displaying marked benefit.

Zentralblatt für Chirurgie, Leipsic

May 29, XXXVI, No. 22, pp. 785-824

137 Operative Treatment of Old Empyema. E. E. Goldmann.

Zentralblatt für Gynäkologie, Leipsic

May 29, XXXIII, No. 22, pp. 753-800

138 Placenta Prævia. W. Hannes. Id. Richter.
139 Bacteriologic Diagnosis of Puerperal Fever. Pankow.
140 Allowing Women to get up Early after Childbirth. (Zum Frühaufstehen der Wöchnerinnen.) A. Hüffell.
141 Technic for Extraperitoneal Cesarean Section. (Die Blasenfüllung bei meiner Methode des extraperitonealen Kaiserschnittes.) W. Latzko.
142 Measures to Protect Mother and Child During Pregnancy and Puerperium. (Wochenschutz.) T. H. van de Velde.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 18, XXX, No. 59, pp. 625-632

143 Action of Colon Bacillus in Bismuth Poisoning. (Azione del bacterium coli in relazione agli avvelenamenti da sottonitrato di bismuto.) P. Barabaschi.

May 20, No. 60, pp. 633-640

144 Importance of Proportions between Framework of the Chest and the Heart for the Functioning of the Latter. (Importanza dei rapporti fra scheletro toracico e cuore per il normale funzionamento di questo.) E. Silvestri.

May 23, No. 61, pp. 641-656

145 *Pathology of Female Genital Apparatus in Relation to Work. (La patologia dell'apparato genitale femminile in rapporto col lavoro.) L. M. Bossi.
146 *Disguised Malaria. (Il concetto della malaria larvata.) F. Musone.

145. **Pathology of the Female Reproductive Organs in Wage-Earners.**—Bossi deplores the scant attention that has been paid to this subject as the increasing participation of women in the industries is rendering it more and more important. He discusses prophylactic measures, saying that the present conditions menace the future of the race, the affections in the female genital sphere not only threatening future generations but by the loss of nervous and moral balance which so often accompanies utero-ovarian lesions, the peace of the household is destroyed. He criticises the proposed legislation to provide for rest for the working woman after delivery, saying that it neglects to provide for rest during the last months of pregnancy when it is equally needed. It further makes no distinction between miscarriage and normal delivery, which he regrets as liable to favor criminal abortion, while the woman after an abortion is not debilitated by the nursing and care of the child. The displacements that are liable to be induced by certain kinds of work; the inflammation in the genital organs which the trauma of the work keeps up, and the physiologic crises of the menses should all be studied with a view to prophylactic measures. Fibromyoma is liable to develop from the interference with the circulation in certain forms of work requiring long sitting, and hematocele from long standing. The general depression of the vitality from the industrial conditions and strenuous attention required, prepare conditions liable to transform an otherwise mild into a malignant affection.

146. **Disguised Malaria.**—Musone discusses the various forms and reports some cases in which malaria was associated with other diseases. The other affection may interfere with the absorption of the quinin, as in dyspepsia, alkaline fermentation or chronic catarrh of the stomach, so that the therapeutic test may give negative results. In meningitic malaria the complexion and daily fluctuation of the symptoms reveal the malarial origin; in true meningitis the symptoms continue a constantly progressive course. The spleen is more enlarged in malaria, and malarial meningitis may subside, a condition which seldom occurs in true meningitis.

Policlinico, Rome

May, XVI, Surgical Section, No. 5, pp. 193-240

147 *Lumbar Puncture in Diagnosis and Treatment of Trauma of the Head and Spine. (Puntura lombare nella diagnosi e nella terapia dei traumi cranio-encefalici.) R. Malatesta.

148 *Gangrene of the Legs. (Gangrena delle estremita inferiori.) A. Vetri.

149 *Hernia of the Bladder. (Ernia della vescica.) F. Mastrosimone. Commenced in No. 4.

May, Medical Section, No. 5, pp. 193-240

150 Toxic Syndromes in Relation to the Non-Dializable Constituents of Urine. (Sul comportamento del contenuto non dializzabile delle urine, nell'uremia, nella nefrite, in rapporto alle differenti diete [carnea e lattea], ed in un caso di peritonite da perforazione.) S. Mancini.

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Report of St. Mary's Home for Children and Free Dispensary. Chicago. For the Year 1908. The Sisters of St. Mary, *Incorporators.* Paper. Pp. 34.

Annual Report of the Washington Heights Hospital of the City of New York. For the Year Ending Sept. 30, 1908. Paper. Pp. 20.

Annual Reports, Cook County Hospital, Chicago, Ill. 1908 Paper. Pp. 48.

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VASOMOTOR AND TROPHIC NEUROSES

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, 1909.

M. ALLEN STARR, M.D., LL.D., Sc.D.
Professor of Neurology, Columbia University
NEW YORK

In taking the chair I must first thank you for the honor you have done me in selecting me for this office. It is needless to say that I appreciate it and that it gives me much pleasure to preside at this meeting. I shall depend on your consideration and assistance in guiding the discussions and proceedings.

It has always been customary for the chairman to present at the opening of the meeting some general topic which has for him some special interest. In looking over the field of neurology many subjects suggested themselves. There is one, however, which is of much importance, but which seems in recent years to have been rather neglected or overlooked, for there is little in the literature bearing on it. Hence I have chosen it. It is the subject of vasomotor and trophic neuroses, and I have thought that a brief presentation of our present knowledge of the vasomotor system and its nervous supply might enlist your interest.

In the term "vasomotor and trophic neuroses" it is intended to include a number of forms of disturbance of circulation and nutrition which are caused by disorders of the nervous system. Such disturbances may occur in any part of the body. They are not to be regarded as distinct diseases, but rather as symptoms of lesions in the peripheral or central nervous system. They may present themselves in various forms. Vasomotor disturbances manifest themselves (1) by a dilatation of the vessels, producing redness, heat, and rapid metabolism in the part affected; or (2) by a contraction of the vessels, causing pallor, coldness, and malnutrition; or (3) by alternation of these conditions and consequent temporary disturbance of function. Trophic disturbances may occur in consequence of such increase or decrease of blood supply, or independently of any vascular change, causing (1) an abnormal production of tissue in an organ, or (2) a decrease in the size and number of its constituent cells, or (3) an actual degeneration of the elements which make it up, after which their place may be taken by another kind of tissue. Under all these circumstances the function of the part affected will be disturbed, and symptoms will be produced which will vary with the tissue or organ involved. Before proceeding to a detailed consideration of these neuroses it is necessary to review the physiology of the vasomotor and trophic systems, in order to make clear the manner in which they perform their functions. And inasmuch as the pathology of these affections is best understood by comparison with experimental lesions made by physiologists in investigating their function, it will be treated together with their physiology.

PHYSIOLOGY

LOCAL VASCULAR TONE

Since changes in the force and frequency of the heart's action, and variations in the total amount of blood in the body, affect the body as a whole, the state of circulation in any one organ or part must be dependent on the degree of contraction or dilatation of its own vessels. This is known as the local vascular tone. It is under the control of a system of nerve ganglia with their subservient fibers which are found in the middle coat of all arterioles. The energy expended by these ganglia is manifested by a constant moderate contraction of the circular muscular coat of the artery—a contraction which is as constantly opposed by the dilating force of the blood pressure within the vessel. An exact equipoise between these two forces never occurs, since each varies constantly, but in a state of health one never becomes permanently excessive. Considerable variations, however, in the local vascular tone are frequently observed. Thus each organ is influenced to a certain degree by every other, since an increase of blood in one part must involve a decrease in all other parts, the total amount of blood in the vessels being constant. Alteration in the heart's action is felt more quickly in some organs than in others, and thus the general blood pressure by its variations may cause secondarily a disturbance of local vascular tone. The variations now under consideration, however, are not of this kind. They are such as are produced by influences acting directly on the ganglia in the vessel walls.

Local irritation is such an influence, and it may excite the ganglia to increased activity, so producing a contraction of the vessel and consequent pallor; or it may suspend the action of the ganglia, so producing a dilatation of the vessel and consequent flushing.

Another influence is irritation acting from a distance and conveyed to the local ganglia by nerve fibers. These nerve fibers can be distinguished from all others by their structure, being non-medullated, and by the fact that they have an indirect course, passing from the central nervous system to the sympathetic ganglia, and from these to the local ganglia in the vessels. The impulses sent along these nerves may affect the local ganglia in one of two ways, either causing contraction by exciting the ganglia, or dilatation by inhibiting the action of the ganglia. The result produced has determined the names given to the impulse, to the fiber transmitting it, and to the center whence the impulse proceeds, and hence vasoconstrictors and vasodilators are distinguished.

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In the term "vasomotor and trophic neuroses" it is intended to include a number of forms of disturbance of circulation and nutrition which are caused by disorders of the nervous system. Such disturbances may occur in any part of the body. They are not to be regarded as distinct diseases, but rather as symptoms of lesions in the peripheral or central nervous system. They may present themselves in various forms. Vasomotor disturbances manifest themselves (1) by a dilatation of the vessels, producing redness, heat, and rapid metabolism in the part affected; or (2) by a contraction of the vessels, causing pallor, coldness, and malnutrition; or (3) by alternation of these conditions and consequent temporary disturbance of function. Trophic disturbances may occur in consequence of such increase or decrease of blood supply, or independently of any vascular change, causing (1) an abnormal production of tissue in an organ, or (2) a decrease in the size and number of its constituent cells, or (3) an actual degeneration of the elements which make it up, after which their place may be taken by another kind of tissue. Under all these circumstances the function of the part affected will be disturbed, and symptoms will be produced which will vary with the tissue or organ involved. Before proceeding to a detailed consideration of these neuroses it is necessary to review the physiology of the vasomotor and trophic systems, in order to make clear the manner in which they perform their functions. And inasmuch as the pathology of these affections is best understood by comparison with experimental lesions made by physiologists in investigating their function, it will be treated together with their physiology.

PHYSIOLOGY

LOCAL VASCULAR TONE

Since changes in the force and frequency of the heart's action, and variations in the total amount of blood in the body, affect the body as a whole, the state of circulation in any one organ or part must be dependent on the degree of contraction or dilatation of its own vessels. This is known as the local vascular tone. It is under the control of a system of nerve ganglia with their subservient fibers which are found in the middle coat of all arterioles. The energy expended by these ganglia is manifested by a constant moderate contraction of the circular muscular coat of the artery—a contraction which is as constantly opposed by the dilating force of the blood pressure within the vessel. An exact equipoise between these two forces never occurs, since each varies constantly, but in a state of health one never becomes permanently excessive. Considerable variations, however, in the local vascular tone are frequently observed. Thus each organ is influenced to a certain degree by every other, since an increase of blood in one part must involve a decrease in all other parts, the total amount of blood in the vessels being constant. Alteration in the heart's action is felt more quickly in some organs than in others, and thus the general blood pressure by its variations may cause secondarily a disturbance of local vascular tone. The variations now under consideration, however, are not of this kind. They are such as are produced by influences acting directly on the ganglia in the vessel walls.

Local irritation is such an influence, and it may excite the ganglia to increased activity, so producing a contraction of the vessel and consequent pallor; or it may suspend the action of the ganglia, so producing a dilatation of the vessel and consequent flushing.

Another influence is irritation acting from a distance and conveyed to the local ganglia by nerve fibers. These nerve fibers can be distinguished from all others by their structure, being non-medullated, and by the fact that they have an indirect course, passing from the central nervous system to the sympathetic ganglia, and from these to the local ganglia in the vessels. The impulses sent along these nerves may affect the local ganglia in one of two ways, either causing contraction by exciting the ganglia, or dilatation by inhibiting the action of the ganglia. The result produced has determined the names given to the impulse, to the fiber transmitting it, and to the center whence the impulse proceeds, and hence vasoconstrictors and vasodilators are distinguished.

148 *Gangrene of the Legs. (Gangrena delle estremita inferiori.) A. Vetri.

149 *Hernia of the Bladder. (Ernia della vescica.) F. Mastrosimone. Commenced in No. 4.

May, Medical Section, No. 5, pp. 193-240

150 Toxic Syndromes in Relation to the Non-Dializable Constituents of Urine. (Sul comportamento del contenuto non dializzabile delle urine, nell'uremia, nella nefrite, in rapporto alle differenti diete [carnea e lattea], ed in un caso di peritonite da perforazione.) S. Mancini.

151 Hemolytic and Nerve Destroying Action of Spider Poison. (Sul potere emolitico del veleno dell'aracnide "Latrodectes terdecim guttatus" e alterazioni istologiche da esso indotte sul sistema nervoso centrale.) O. Pini.

152 Effects on the Kidney of Puncture of the Fourth Ventricle. (Effeti sul rene della puntura del IV ventricolo cerebrale.) A. Capogrossi.

153 *Blood Plates in Malaria. (Le piastrine del sangue nella infezione malarica.) G. Fornaca.

147. **Lumbar Puncture in Diagnosis and Treatment of Trauma of the Head.**—Malatesta reports nine cases in detail to show the benefit derived from lumbar puncture as a diagnostic and therapeutic measure. When there is a varicose tendency the meninges may share in it, and the cerebrospinal fluid may be hemorrhagic without any lesion in the cerebrospinal axis. This occurred twice in his experience with lumbar puncture for spinal anesthesia in 600 cases. One of the varicose patients had leg ulcers and the other hemorrhoids. A hemorrhagic cerebrospinal fluid therefore should be estimated very cautiously in patients with varicose lesions elsewhere. The relief in the traumatic cases after some of the fluid had been withdrawn by spinal puncture was marked in every instance, and the puncture was repeated several times in some cases. In all cases of trauma of the skull in which expectant treatment is justified, lumbar puncture will permit the diagnosis of intracranial hemorrhage, and by repeated puncture its course can be determined. The puncture permits the escape of the extravasated blood and relieves the compression. The retained blood is liable to decompose and cause production of toxins that will injure the nervous tissue still further, the effect shown in stupor, fever and delirium. He agrees with Ferretti that whatever may be the mechanism of the action of lumbar puncture, it is certainly to be commended when doomed to inaction otherwise, as the simple and easy little intervention may induce far-reaching beneficial effects. Nearly three pages of bibliographic references on the subject are appended

148. **Gangrene of the Legs in Pneumonia.**—Vetri's patient was a previously healthy ix-para of 42, at the ninth day of pneumonia when symptoms of gangrene developed in the left leg; the right leg became similarly affected fifteen days later. Amputation of both legs failed to arrest the fatal outcome and autopsy confirmed the assumption that the trouble was the result of inflammatory changes in the walls of the vessels with thrombosis and embolism. The only possible cause known for the trouble was the pneumonia. He reviews the similar cases on record of gangrene in acute infectious diseases, noting the involvement of both sides, although not symmetrical, in most of the cases. In his case the gangrene came on gradually and progressively, invading the left leg from the toes to the upper third of the thigh and the right to the knee.

149. **Hernia of the Bladder.**—Mastrosimone reports seven cases and reviews others on record and the results of experimental research, all of which confirm the opinion that it is almost impossible to recognize beforehand the involvement of the bladder in the hernia, and even during the operation, if the tissues are healthy, the bladder wall is not recognized easily unless the possibility of its involvement is borne carefully in mind. If the bladder wall is gangrenous it is impossible to recognize it. For the bladder to become involved in a hernia it has to be abnormally high and its walls less firm than usual. If the bladder wall has been opened, the herniotomy wound should not be entirely sutured at first.

153. **The Blood Plates in Malaria.**—Fornaca summarizes 30 cases of malaria in which the blood plates were noted, calling attention to the characteristic reduction in their number during the fever and their return to normal under the influence of quinin. The behavior of the blood plates is liable to have differential value in certain cases.

Riforma Medica, Naples

May 17, XXV, No. 20, pp. 533-560

154 Resection of Stomach for Gastric Ulcer. (Caso di resezione di stomaco per ulcere gastriche.) G. Cocci.

155 The Speech Center and Motor Aphasia. (Centro di Broca e afasia motrice.) E. Benvenuti. Commenced in No. 19.

May 24, No. 21, pp. 561-588

156 *Anatomic and Clinical Study of Four Cases of Nasopharyngeal Fibroma. U. Zandonini.

157 Callus Formation after Contusion of Muscles. (Esito raro di contusione muscolare.) S. Rolando.

May 31, No. 22, pp. 589-616

158 Origin of Gallstones. (Sulle teorie per la patogenesi dei calcoli biliari e contributo alla loro produzione sperimentale.) O. Marchetti.

159 The Graphic Method Applied to Registration of the Pulse in the Esophagus. (La pulsazione cardio-esofagea nell'uomo in condizioni fisiologiche e in alcuni stati morbosi del cuore.) D. Pace.

160 *Four Cases of Perforating Ulcer of the Foot Cured by Stretching the Nerve. (Cura dell'ulcera perforante del piede mediante lo stiramento dei nervi.) G. Piccioli.

156. **Nasopharyngeal Fibroma.**—Zandonini has found signs of an inflammatory process in the upper air passages so constantly with fibromas that he is inclined to ascribe etiologic importance to it. The fibroma may retrogress, and consequently palliative measures are justifiable if the patient is at an age when such involution is liable to occur. But in the young the growth should be radically removed and he describes four cases in which he did this with success.

160. **Stretching the Nerve in Treatment of Perforating Ulcer of the Foot.**—Piccioli reports four cases after reviewing the history of this method of treatment. His patients were men between 36 and 58, and the case histories confirm anew the neuropathic origin of such lesions. The plantar nerve was the one stretched in one case and the tibialis in the others, but the results observed suggest that it might be still better to stretch the sciatic nerve instead, as liable to have a more decided effect, especially on the spinal nerve centers. The procedure was supplemented by careful toilette of the ulcer, placing it in the most favorable conditions for healing, although cases are on record in which the stretching of the nerve alone, without this, proved effectual. Local anesthesia was employed and the result was permanent in three cases; in the fourth, one of the bilateral lesions recurred: the patient was a syphilitic, much addicted to alcohol, and the ulcer displayed a tendency to gangrene. The conditions in the circulation were evidently too serious for possibility of recuperation in this case.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Symptoms and Their Interpretation. By James Mackenzie, M.D., M.R.C.P., Physician to the West End Hospital for Nervous Diseases, London. Cloth. Pp. 297. Price, 7 shillings 6 pence. London: Shaw & Sons, 7 and 8 Fetter Lane, E. C., 1909.

A Manual of Operative Surgery. By Sir Frederick Treves, Bart. G.C.V.O., C.B., LL.D., F.R.C.S., Consulting Surgeon to the London Hospital, and Jonathan Hutchinson, F.R.C.S., Surgeon to and Lecturer on Surgery at the London Hospital. Edition 3. In Two Volumes. Vol. 1. Half Morocco. Pp. 775, with 193 engravings and 17 full-page plates. Price, $6.50. Philadelphia: Lea & Febiger, 1909.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. XX. For the Year 1907. Cloth. Pp. 319.

Lehrbuch der [illegible] Aerzte und Studierende. Von Dr. [illegible] ür Magen und Darmkrankheiten in [illegible] with illustrations. Price, 12 marks. [illegible] ger, 1909.

Health of Animals Branch [Canadian Department of Agriculture]. Special Report of Maladie du Coit or Dourine. Paper. Pp. 63, with illustrations. Ottawa: 1907.

Seventh Annual Report of the Director of the Bureau of Science, to the Honorable, the Secretary of the Interior. By Paul C. Freer, Director of the Bureau of Science, for the Year Ending Aug. 1, 1908. Paper. Pp. 79. Manila.

Report of St. Mary's Home for Children and Free Dispensary. Chicago. For the Year 1908. The Sisters of St. Mary, Incorporators. Paper. Pp. 34.

Annual Report of the Washington Heights Hospital of the City of New York. For the Year Ending Sept. 30, 1908. Paper. Pp. 20.

Annual Reports, Cook County Hospital, Chicago, Ill. 1908 Paper. Pp. 48.

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Address

VASOMOTOR AND TROPHIC NEUROSES

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, 1909.

M. ALLEN STARR, M.D., LL.D., Sc.D.
Professor of Neurology, Columbia University
NEW YORK

In taking the chair I must first thank you for the honor you have done me in selecting me for this office. It is needless to say that I appreciate it and that it gives me much pleasure to preside at this meeting. I shall depend on your consideration and assistance in guiding the discussions and proceedings.

It has always been customary for the chairman to present at the opening of the meeting some general topic which has for him some special interest. In looking over the field of neurology many subjects suggested themselves. There is one, however, which is of much importance, but which seems in recent years to have been rather neglected or overlooked, for there is little in the literature bearing on it. Hence I have chosen it. It is the subject of vasomotor and trophic neuroses, and I have thought that a brief presentation of our present knowledge of the vasomotor system and its nervous supply might enlist your interest.

In the term "vasomotor and trophic neuroses" it is intended to include a number of forms of disturbance of circulation and nutrition which are caused by disorders of the nervous system. Such disturbances may occur in any part of the body. They are not to be regarded as distinct diseases, but rather as symptoms of lesions in the peripheral or central nervous system. They may present themselves in various forms. Vasomotor disturbances manifest themselves (1) by a dilatation of the vessels, producing redness, heat, and rapid metabolism in the part affected; or (2) by a contraction of the vessels, causing pallor, coldness, and malnutrition; or (3) by alternation of these conditions and consequent temporary disturbance of function. Trophic disturbances may occur in consequence of such increase or decrease of blood supply, or independently of any vascular change, causing (1) an abnormal production of tissue in an organ, or (2) a decrease in the size and number of its constituent cells, or (3) an actual degeneration of the elements which make it up, after which their place may be taken by another kind of tissue. Under all these circumstances the function of the part affected will be disturbed, and symptoms will be produced which will vary with the tissue or organ involved. Before proceeding to a detailed consideration of these neuroses it is necessary to review the physiology of the vasomotor and trophic systems, in order to make clear the manner in which they perform their functions. And inasmuch as the pathology of these affections is best understood by comparison with experimental lesions made by physiologists in investigating their function, it will be treated together with their physiology.

PHYSIOLOGY

LOCAL VASCULAR TONE

Since changes in the force and frequency of the heart's action, and variations in the total amount of blood in the body, affect the body as a whole, the state of circulation in any one organ or part must be dependent on the degree of contraction or dilatation of its own vessels. This is known as the local vascular tone. It is under the control of a system of nerve ganglia with their subservient fibers which are found in the middle coat of all arterioles. The energy expended by these ganglia is manifested by a constant moderate contraction of the circular muscular coat of the artery—a contraction which is as constantly opposed by the dilating force of the blood pressure within the vessel. An exact equipoise between these two forces never occurs, since each varies constantly, but in a state of health one never becomes permanently excessive. Considerable variations, however, in the local vascular tone are frequently observed. Thus each organ is influenced to a certain degree by every other, since an increase of blood in one part must involve a decrease in all other parts, the total amount of blood in the vessels being constant. Alteration in the heart's action is felt more quickly in some organs than in others, and thus the general blood pressure by its variations may cause secondarily a disturbance of local vascular tone. The variations now under consideration, however, are not of this kind. They are such as are produced by influences acting directly on the ganglia in the vessel walls.

Local irritation is such an influence, and it may excite the ganglia to increased activity, so producing a contraction of the vessel and consequent pallor; or it may suspend the action of the ganglia, so producing a dilatation of the vessel and consequent flushing.

Another influence is irritation acting from a distance and conveyed to the local ganglia by nerve fibers. These nerve fibers can be distinguished from all others by their structure, being non-medullated, and by the fact that they have an indirect course, passing from the central nervous system to the sympathetic ganglia, and from these to the local ganglia in the vessels. The impulses sent along these nerves may affect the local ganglia in one of two ways, either causing contraction by exciting the ganglia, or dilatation by inhibiting the action of the ganglia. The result produced has determined the names given to the impulse, to the fiber transmitting it, and to the center whence the impulse proceeds, and hence vasoconstrictors and vasodilators are distinguished.

The history of the development of the sympathetic nervous system as well as its gross anatomy, affords distinct proof that it is not an independent system, as Bichat supposed, but is closely connected on its physiologic action with the spinal cord and brain. Impulses which reach the sympathetic ganglia from a distance along the vasoconstrictor or vasodilator fibers originate in the central nervous system. The nervous mechanism which controls the local vascular tone is, therefore, a complex one, consisting not only of the set of local ganglia connected with larger sympathetic ganglia, but also of centers in the spinal cord connected with the higher centers in the brain. The brain centers in turn are complex, consisting of an automatic mechanism in the medulla regulating the action of all the subordinate parts below it, and of a series of cortical centers whose function it is to stimulate or inhibit the medullary mechanism. It therefore becomes evident that local vascular tone may be modified by local causes acting on the ganglia in the vessels—e. g., cold or heat; by changes in the sympathetic ganglia—e. g., the hyperemia of the face in lesions of cervical ganglia; by reflex action through the spinal cord—e. g., pallor produced by pain; by reflex action through the medulla oblongata—e. g., glycosuria following sciatica; or by conscious or unconscious impulses coming from the cortex—e. g., the blush of shame, the vasomotor paralysis of hemiplegia.

VASOCONSTRICTORS

Such a mechanism, however complex in structure, would be easily comprehended if the constant manifestation of energy in the maintenance of arterial tone had its only source in the action of the local ganglia in the vessels, and was affected only occasionally by impulses from a distance, as has been thus far supposed. This, however, is not the case, as has been demonstrated by a series of experiments beginning with the brilliant researches of Claude Bernard. The classical experiments of the French physiologist were made on the sympathetic cord in the neck of a rabbit. Division of this was found to produce a dilatation of the vessels of the ear. Irritation of the peripheral end of the divided cord produced a contraction of the vessels. Division of the spinal nerves connected with the cervical sympathetic and of their anterior roots, or irritation of the cut ends, produced effects similar in character to those caused by division or irritation of the cervical sympathetic. Destruction of the spinal cord in the lower cervical region, or division of the cord at any higher level up to the medulla, was followed by dilatation of the vessels. If the segment of the divided cord just below the section was irritated the vessels contracted. Destruction of the medulla at the calamus scriptorius and above it for three centimeters produced a general dilatation of all the vessels in the body, but division above this level had no effect. The initial congestion produced by these various experiments was accompanied by a rise of temperature in the part. It was followed after a time by a partial recovery of vascular tone, which was more complete the farther the division from the local ganglia. These facts warrant the conclusion that the energy expended by the local ganglia in holding the vessels in a state of constant moderate contraction is derived from the central nervous system, primarily from the automatic center in the medulla, which in turn is reinforced by each of the secondary centers in the spinal cord and sympathetic ganglia; and also that while the medullary centers control the entire body, the cord and sympathetic centers control only those parts with which they are especially related. In order, therefore, to the maintenance of normal vascular tone the local ganglia must be intact, and they must be in connection with the sympathetic ganglia; these must be active, and must be connected with the spinal cord; the cord must be normal, and its tracts from the medulla must be capable of conduction; the medullary center must be active, and not hindered or spurred by cortical impulses of a conscious or unconscious nature. Any injury to one or more of these parts will produce a vascular dilatation by interfering with the transmission of vasoconstrictor impulses from within outward, and any irritation of one or more of these parts may cause a contraction of the vessels by increasing the normal stimulus sent to the local ganglia by the vasoconstrictors. An example of such an irritation is the enormous rise of arterial tension seen in an increasing cerebral hemorrhage; or in the intracranial pressure due to abscess or tumor.

VASODILATORS

The action thus far considered has been wholly of a vasoconstrictor kind, and the dilatation which has been mentioned has been due to cessation of the constrictor energy normally passing outward. This may be termed a passive dilatation. It is the kind produced by division of any one of the sympathetic ganglia or cords. But further experiments have shown that another kind of dilatation may be produced, traceable not to a mere cessation of constrictor impulses, but to an impulse of a positive kind sent to the local ganglia and resulting in a sudden suspension of their activity. Such an impulse is really an inhibitory impulse arresting the action of the ganglia in spite of the continued stimulus sent to them from the central nervous system. Its result is a dilatation of the arteries, produced by the blood pressure within them, which may be termed an active dilatation. That vasodilators act by inhibiting local ganglia which cause contraction is now accepted, especially since it is found that such inhibitory activity is constantly displayed by other parts of the nervous system, and is competent to explain the facts. The active dilatation produced by the inhibition of the action of the local ganglia is, therefore, to be clearly distinguished from the passive dilatation caused by the cessation of normal tonic impulses sent to them from higher centers. The former is a positive active vasodilator phenomenon. The latter is a negative paralytic vasoconstrictor phenomenon. The former is more effective, the dilatation being greater in degree and more permanent than the latter, and resembles exactly the dilatation produced experimentally by exhaustion of the activity of the local ganglia by overstimulation of the constrictors. An example of this is the low vascular tone and complete relaxation of the large vessels seen in shock or in abdominal injuries.

An important point of contrast which has been established between vasoconstrictor and vasodilator impulses is that while the former are constant the latter are intermittent. Hence they can not be regarded as opponents of one another. In a normal quiescent state vasoconstrictor energy is always being supplied to counteract the continued intravascular pressure ever renewed with the cardiac systole. The vasodilators are inactive. In an organ thrown into functional activity an increased flow of blood at once takes place, proportionate to the work being done by the organ. Such a functional hyperemia might be produced either by a cessation of constrictor impulses or by an inhibition of their effects. It is by the latter means and through the vasodilators that it is produced, and it is probably the chief function of the vasodilator nerves to regulate the blood supply in accordance with the need of a part. For this reason these nerves have been supposed to pass with the motor nerves to the muscles. As few organs exist without a possible use, it is probable that vasodilators pass to all parts of the body, as Vulpian asserts, though they have not been demonstrated in every organ or every part.

Like the vasoconstrictors, the vasodilators can be traced to the spinal cord, and their centers there are governed by a general center in the medulla, which in turn may be affected by impulses from the cortex. A destructive lesion in any part of the vasodilator system does not produce as marked effects as one involving the vasoconstrictor system, since the symptoms of such a lesion will appear only when the vasodilators are called into play. When the vasodilator nerve to the submaxillary gland is cut, no change is observed unless its function should be excited by some sapid substance put in the mouth, when the gland is no longer found to flush with blood as in the normal state. It is by means of the vasodilators that erectile organs become engorged with blood. Eckhard has shown the nervi erigentes of the penis to be vasodilator nerves. If they are destroyed, the organs will not respond to the wonted stimulus—a symptom which, however, would be noticed only at intervals. An irritative lesion of the vasodilator system may produce permanent congestion of an organ or part, but this seems to be rather more rare than a congestion from paralysis of the constrictors. It is seen in injuries of the peripheral nerves. An example of the inhibition exerted by the cortical centers over this part of the vasodilator system is the state of impotence of psychical origin.

ORIGIN OF THE VASOMOTOR NERVES

The exact course of the vasoconstrictor and vasodilator nerves has been traced from various parts into the central nervous system by the careful experiments of Dastre and Morat and by Gaskell. It is now established that they exist as separate nerves, although they often run together, and that they usually enter the spinal cord at different levels.

If the various spinal nerves be cut singly from above downward, and the effects noted, and if the peripheral ends be irritated and the effects noted, and if with proper care the results be analyzed and compared, it will be found that the anatomic connections of the segments of the spinal cord with the sympathetic ganglia, which are so evident at each level, are not the ones by which physiologic impulses pass out at that level. The vasoconstrictors of the head, which can be traced to the superior cervical ganglion, do not come from the upper cervical region of the cord, as might be supposed from the connections of that ganglion, but from the first three dorsal nerves. They reach the ganglion through the sympathetic cord in the neck, having traversed the inferior cervical ganglion on the way. The vasoconstrictors of the arm, which can be traced to the inferior cervical and upper thoracic ganglia and to the thoracic sympathetic cord, are derived from the seven upper dorsal nerves. It is true that division of the roots of the brachial plexus causes a slight dilatation of the vessels of the arm, but this is so much increased when the dorsal nerve roots are divided that it is evident that it is through them that the constrictor fibers chiefly pass. The vasoconstrictors of the leg, which can be traced into the second and third lumbar ganglia and lumbar sympathetic cord, are derived from the five lower dorsal and first lumbar nerves, and only join the crural and sciatic nerves after passing through the abdominal sympathetic. The thoracic viscera are probably supplied partly through the branches of the inferior cervical and thoracic ganglia, and partly through the pneumogastric, the latter statement being disputed by Gaskell. The abdominal viscera are supplied partly through the splanchnic nerves, which are made up of fibers issuing from the cord in the fifth to the twelfth dorsal nerves inclusive, and partly through the pneumogastric. Thus the dorsal region of the cord is the origin of the majority of vasoconstrictor fibers in the body.

The origin of the vasodilators is also to be traced to the dorsal cord. The vasodilators of the buccofacial region comes from the second to the fifth dorsal nerves, whence they pass to the first thoracic ganglion, and thence by the ansa of Vieussens into the cervical sympathetic cord. Those of the eye, head, and ear come from the safe ganglion, but have their spinal origin in the eighth cervical and first dorsal nerves. Those of the arm are traced into the upper thoracic sympathetic cord, which they reach from the five upper dorsal and last cervical nerves. Those of the leg are traced to the first and second lumbar ganglia and the lumbar sympathetic cord, which they reach from all the dorsal nerves from the sixth downward. Gaskell holds, however, that the vasodilators of the extremities pass out of the cord in the cervical and lumbar plexuses and accompany the cerebrospinal nerves. The vasodilators of the thorax and abdomen are supposed to pass in the pulmonary plexus and splanchnic nerves, but this is not yet fully determined.

Vasomotor nerves can be distinguished from motor and sensory nerves in the spinal nerve roots by the smallness of their caliber. The vasoconstrictors issue from the spinal cord in both anterior and posterior nerve roots as medullated fibers, and pass to the sympathetic ganglia lying on the vertebræ (proximal or lateral ganglia); there they lose their medullary sheath, and either end in cells whence new fibers issue, or more probably pass directly onward as non-medullated fibers, having a connection with the unipolar cells of the ganglia only for purposes of nutrition. The number of fibers issuing from any one ganglion is much greater than the number entering it from the cord; hence it is supposed that each medullated fiber splits up into a group of non-medullated fibers; which is possible, as each axis-cylinder is made up of numerous fibrils. Leaving these ganglia, the nerves pass either to the second series of ganglia (distal or collateral ganglia), whence they issue in plexuses to enter the vessels, or to the vessels directly, where they divide in plexuses. It is in the meshes of the plexus that the local ganglia of the vessel walls are found. The vasodilators are thought to differ from the vasoconstrictors in passing directly to the distal ganglia as medullated fibers, not being connected in any way with the proximal ganglia.

VASOMOTOR REFLEXES

Thus far reference has been made only to fibers whose direction of transmission is centrifugal, and whose exit from the spinal cord is by the anterior nerve roots. There are other fibers, however, through which centripetal impulses pass, and these enter the spinal cord with the posterior nerve roots. The function of these fibers is to transmit sensory impulses inward to reflex centers, and thus set in action motor mechanisms of a vosoconstrictor or dilator kind whose effects are produced at the periphery. There are, therefore, vasomotor reflexes, as well as skin and tendon reflexes, whose centers are in the spinal cord. These reflex acts may be excited by impulses reaching the center not only through the vasomotor centripetal nerves, but also through the sensory nerves of the cerebrospinal system. The effect of changes of temperature on the circulation in the skin (if the right hand be plunged in cold water there is a fall of temperature in the left hand), the effect of pain on the color of the face and the size of the pupil, the red cheek on the affected side in pneumonia, the occurrence of glycosuria during sciatica—all these are instances of such reflex acts. Many vasomotor affections are produced by irritation causing reflex effects at a distance from the seat of irritation—a fact always to be kept in mind. The utility of counter-irritation to the surface in diseases of the internal organs is explained by supposing that vascular changes are produced in those organs through reflex mechanisms set in action by the local irritation. While some of these reflexes may have their central mechanism in the local ganglia it is probable that the majority are to be traced to the spinal cord. It is believed that the sympathetic ganglia are not the seat of reflex centers.

Since the vasomotor nerves are connected almost exclusively with the dorsal portion of the spinal cord, it is very natural to conclude that the vasomotor reflex centers are situated in this region; and the hypothesis has been advanced by Jacobovics, and strongly urged by Gaskell, that the cells of the vesicular columns of Clarke, which are peculiar to this region, are the seat of these reflex mechanisms. This hypothesis gains some support from the pathology of syringomyelia. In this disease the gray matter surrounding the central canal and the vesicular columns is destroyed. The characteristic symptoms are vasomotor and trophic disturbances, consisting of changes in the vascular tone, changes of local temperature, and various eruptions, in some cases going on to ulceration in the skin and mucous membranes. It is, however, undecided whether the vasomotor centers of the cord are limited to the columns of Clarke, or are situated in the gray matter surrounding the central canal, since both these parts are destroyed in this disease. That they are not located in the anterior or posterior gray cornua is determined by the fact that diseases limited exclusively to these areas do not cause vasomotor disturbances. The situation of the various reflex centers for the various parts of the body is at different levels of the cord, as has been determined by the experiments already cited to establish the level of origin of the vasomotor nerves. The exact location of the vasoconstrictor and vasodilator reflex centers for definite parts is yet to be ascertained.

VASOMOTOR TRACTS

These reflex centers are connected with the medulla by tracts which lie in the lateral columns of the spinal cord, although it is not determined in which part of these columns. It is not possible as yet to separate the constrictors from the dilators in this tract, nor to determine whether it transmits impulses in both directions or only from above downward. Nor is the course of associating fibers between reflex centers at different levels known. In cases of transverse myelitis the control of the medulla is removed from the vascular centers below the lesion, and the lack of vascular tone seen in the paralyzed limbs, together with the susceptibility to local irritation, is the result of this division of the vasomotor tracts.

MEDULLARY CENTERS

It has been stated already that a general vasomotor center with both constrictor and dilator powers is situated in the medulla. This lies in two divisions on each side of the middle line, in or just beneath the floor of the fourth ventricle, from the calamus scriptorius up to the level of the sixth nerve nucleus. Each division governs the vascular tone of its own side of the body,[1] and lesions in its region in man produced unilateral vasomotor symptoms.[2] This center can be excited to reflex action by strong irritation locally or through the blood, in which case a general constriction or dilatation of the vessels of the entire body will ensue. It seems probable, however, that the general center in the medulla is made up of a number of special centers, each of which governs a definite set of organs. The vascular tone of the thoracic and abdominal viscera is certainly regulated by a series of such centers. Brown-Séquard and Schiff have produced hemorrhages in the lungs, pleura, stomach, intestines, and kidneys at different times by destructive lesions of the medulla, and the well-known experiments of Bernard in which by puncture of the medulla local hyperemia of the liver or kidneys was caused, producing glycosuria or polyuria, confirm this view. Lesions of these parts in man produce similar effects. Charcot has shown that in cerebral hemorrhage ecchymoses may be found in the stomach, pleura, and endocardium, and that pneumonia is especially frequent on the paralyzed side. De Jonge[3] has been able to collect thirteen cases of diabetes mellitus in which a lesion of the medulla (hemorrhage or tumor) was found after death; and Flatten[3] has proved the existence of similar lesions in diabetes insipidus. The medulla contains a special center for the vasomotor nerves of the abdomen, which are in the domain of the splanchnic nerves. This center is excited reflexly by impulses reaching it through the depressor nerve of Cyon from the heart; so that when that organ is overburdened it may be relieved by a fall of arterial pressure produced by dilatation of the abdominal vessels. Whether the connection of the medulla with the centers in the semilunar ganglion which preside directly over these vessels is made by way of the spinal cord or by way of the pneumogastric nerve is still undetermined, though the researches of Gaskell favor the former view. Gastric and intestinal disturbances are certainly produced by nervous lesions in the medulla, but whether they are due to vascular changes is uncertain. The vomiting of mucus and blood, and the large watery evacuations which accompany mental shock or anxiety, as well as the polyuria associated with mental effort, have been ascribed to irritation of local centers in the medulla governing the gastrointestinal and urinary organs by impulses received from the cortex above. I have a patient, a professor in a college, who always has a profuse diarrhea on the way to his lectures, but never has it on a day when he is free from duty. The spleen is under the control of vasomotor centers, since section of the splenic branches of the semilunar ganglia will produce a great enlargement of the organ, and irritation of the cut end of these branches will produce contraction.[4] The medulla also contains a vasodilator center for the erectile tissues of the genital organs, irritation of which by mental action or local disease causes impulses to pass to the nervi erigentes by way of the spinal cord, result-

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1. Owsjanikow: Arb. a. d. Physiol. Inst. zu Leipsic, 1871.
2. Starr, M. A.: Sensory Tract in Central Nervous System, Jour. Nerv. and Ment. Dis., July, 1884, p. 396.
3. Arch. f. Psychiat., xiii, 231.
4. Tarchanoff: Arch. f. d. ges. Physiol. (Pflüger's), viii, 97. Ross: Diseases of the Nervous System, i, 225.

ing in a flow of blood to the parts. The priapism seen in myelitis is due to irritation of the tracts from this center to the vasomotor mechanism of the genital organs. Although a center has been thought to exist controlling the circulation in the lungs, whose paralysis has been supposed to explain the occurrence of sudden pulmonary edema without other known cause, no definite facts regarding it are known. That the action of the heart is under the control of the medulla is a fact too well known to require more than a mention. The physiology of the nervous control of the heart can not be discussed here.

While these medullary centers are certainly influenced by impulses reaching them from the cerebral hemispheres, as is evident from the vasomotor symptoms produced by mental action—e. g., pallor from fright, blushing, etc.—it is impossible to state in what portion of the hemispheres in man the higher vasomotor centers lie. Eulenburg and Landois locate them in the motor area in animals.[5] They are certainly beyond control of the will, and are wholly reflex in their action, a purely mental act in this case being the excitant of a purely physical result. It is rather singular that in the many observations regarding cortical lesions of the brain in recent years no light has been thrown on this subject.

PATHOGENESIS

From this review of the physiology of the vasomotor system it becomes evident that disturbances of vascular tone may be produced by many different causes acting on many various parts. They may be due to local affections of the part in which the symptoms are present, as in the case of erythema after burns or frost-bite, or congestion of any organ after injury. They may be due to affections of the vasomotor nerves passing to the part affected, as in the case of vascular changes due to peripheral nerve lesions. The peculiar blueness in the fingers after an ulnar or median nerve injury will occur to any one as a good example. They may be due to affections of the sympathetic ganglia connected with the part affected, as in the case of migraine, sudden flushing of one ear, certain cases of polyuria, and hyperthyroidism. They may be due to lesions in the spinal cord affecting the vasomotor centers or compressing the nerve roots on their way to and from the sympathetic ganglia, as is the case in the various forms of myelitis and in Raynaud's disease or symmetrical gangrene, and in meningitis, tumors of the cord, or Pott's disease. They may also be caused by such conditions in the cord as cut off the vasomotor centers from the medullary centers, such as transverse myelitis from compression or traumatism. They may be due to lesions of the medulla oblongata, as is seen in some cases of polyuria and glycosuria, and in cases of universal erythema following acute fevers. They may be due to diseases of the cerebral hemispheres, as is evident from the vasomotor symptoms occurring in hemiplegia and hysteria. Finally, they may be of a reflex origin, dependent on some obscure source of irritation in a part quite distinct from the region in which the symptoms appear.

SYMPTOMS

A vasomotor affection may manifest itself either by a spasm or a paralysis of the vessels. In angiospasm the part affected becomes pale, and irritation no longer causes a vasomotor reflex. It looks shrunken, and if the skin over it is loose it may be thrown into folds or shrivelled, presenting the appearance seen in the hands after long immersion in hot water. The lack of blood in the parts arrests the processes of metabolism which are normally constant, and if the condition continues this may result in such a disturbance of nutrition that ulceration, or even gangrene, may ensue. The local anemia, combined with the cessation of metabolism, produces a fall of temperature in the affected part, which is then more easily affected by the temperature of the air than in a normal state, so that exposure to cold is very liable to cause freezing. These conditions necessarily produce an impairment of function, so that if the affection is located in the extremities, as the fingers, they are soon rendered useless. The term "digiti mortui" has been applied to this state. In the surface of the body angiospasm causes cutis anserina, pallor, numbness, tingling, slight anesthesia, and analgesia. If it occurs in a limb, the finer motions are imperfectly performed, and in time the nutrition of the muscles may be so impaired as to produce atrophy and paresis. Such arterial spasm in the deeper arteries of the leg gives rise to intermittent claudication, in which for a few moments the individual is quite helpless from loss of power in the leg. It may even lead to gangrene. Nothnagel has recorded[6] five cases of sciatica in which the pain produced a reflex spasm of the vessels of the leg, which, persisting, resulted in partial paralysis, atrophy, lowering of temperature, pallor, and sensory disturbances. Ross mentions the sudden appearance of circumscribed patches on the hands and forearms of washerwomen, in which there is a pallor, coldness, and partial anesthesia. These may be limited to the distribution of a single nerve, and may be accompanied by trophic affections.

I believe that such a spasm of the arteries of the brain affords an adequate explanation of those sudden attacks of aphasia, or monoplegia, or hemiplegia, or numbness, or hemianopsia which occur but which soon pass away, leaving no permanent disability.

Spasm of the veins may occur as well as of the arteries,[7] or independently of them. In the latter case the blood will not pass out of the capillaries. The part will then be blue, swollen, edematous, and painful; the temperature will be lowered by increased radiation of heat, and all the sensations and functions be impaired in greater or less degree. If this continues, nutrition may suffer, and in the end gangrene develop, which will take its course and lead to the throwing off of the part. Grainger Stewart has described such a condition occurring in both hands and feet.[8] It may be likened to a severe form of Raynaud's disease.

Angioparalysis is less frequent than angiospasm, and may be due either to paralysis of the vasoconstrictors or to excitement of the vasodilators. It shows itself by a bright-red or mottled appearance of the skin, and increase of local temperature, and more rapid processes of nutrition, together with an increase of secretion if the part is a gland or a mucous membrane, and an increase of sweat if it is the skin. In the latter case an increased sensitiveness to change of temperature, a subjective sensation of heat, and hyperesthesia and hyperalgesia may occur. The hyperesthesia on the paralyzed side which is present in hemiparaplegia spinalis is ascribed to the vasomotor paralysis. But these symptoms soon give place to others. The dilatation of the vessels, which at first caused an increased flow of blood to the part, produces a slowing of the blood current in the part, just as a river runs less rapidly where it becomes wider. The slowing of the current in the skin allows a more complete cooling of the part as the radiation of heat and the evaporation of moisture are increased, and the slowness of the renewal of blood impairs the processes of nutrition, so that to the first stage of redness, heat, and increased metabolism there ensues a stage of blueness, cold, and defective nutrition, and the function of the part may be impaired. In this stage it usually presents a mottled appearance, and may be slightly swollen and edematous, and the continued increase of perspiration gives it a clammy coldness to the touch. In all of these conditions severe pain, sometimes of a burning character, is a very distressing symptom (causalgia). These conditions are seen in peripheral nerve-lesions, and give rise to the appearances which have been so admirably described by Weir Mitchell.[9]

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[5] Virchow's Arch. f. path. Anat., lxviii, 245.

[6] Nothnagel: Arch. f. Psychiat., v. 86.

[7] Weiss: Symmetrische Gangrän. Wiener Klinik. 1882.

[8] Stewart, Grainger: An Introduction to the Study of Nervous Diseases, p. 138.

A peculiar combination of symptoms may be mentioned here, to which Weir Mitchell has given the name of erythromelalgia.[10] This symptom begins with tenderness and pain in the soles of the feet, which are soon followed by a marked distention of the capillary vessels. The congestion is attended by a sensation of burning pain similar to that produced by a blister. The surface is at first of a dull dusky-red color; later it appears purple. The redness is not uniformly distributed over the sole, but occurs in patches of irregular shape, being especially frequent over prominent parts exposed to pressure and friction, and the attacks seem to be brought on by long standing or walking. At first there is a rise of temperature in the affected surface, the arteries pulsate visibly, the veins are swollen, and there may be some edema. Later, the foot is cold and pale. Sensations of touch and temperature are normal, but the part is so extremely tender that walking is impossible. There is no paralysis. One or both feet may be affected, but the patches of redness are rarely symmetrical. The hands are occasionally affected. The condition may occur in paroxysms or may remain for some time. It resists all known methods of treatment, although applications of cold relieve the burning pain to some extent and the tenderness enforces rest.

With angioparalysis may be classed the *taches cérébrales* of Trousseau, no longer considered diagnostic of meningitis, but denoting a weakened condition of vasoconstrictor action in the local ganglia of the vessel-wall, which may occur on local irritation of the skin in any severe disease affecting the nutrition of the general nervous system.

Actual rupture of the capillaries in the course of vasomotor diseases is rarely observed, although the stigmata appearing in hysterical and cataleptic patients may be ascribed to this cause. In this connection tabetic ecchymoses may be mentioned, which appear suddenly without local injury, and resemble an ordinary bruise, running a similar course. They occur only in the course of locomotor ataxia.[11]

In addition to these forms of vasomotor affections, there is a condition of instability of vascular tone which manifests itself by sudden transient changes in the circulation of various organs. This is a functional affection, usually due to malnutrition. It is seen in many cases of neurasthenia and hysteria, and manifests itself by sudden flushes or pallor, alternations of heat and cold, local sweating, attacks of mental confusion, and inability to use any organ continuously from disturbance of the power of the vasodilators to maintain a condition of functional hyperemia.[12] Little is actually known about the causes of this state of the vascular system, although much has been written about it.

Many functional derangements of the internal viscera have been ascribed to such vasomotor instability with more or less probability,[13] but hypothesis of this kind, however plausible, is evidently beyond confirmation. It is especially in affections of this kind that causes of reflex irritation are to be carefully sought. Cutaneous angioneuroses, such as have just been described, may affect any part of the body. They usually appear suddenly, producing much discomfort and an impairment of function in the part if it is an extremity. They disappear as rapidly as they come. The duration of such attacks varies from a few minutes to several days. They are very liable to recur. If it is the vessels under the control of the cervical sympathetic which are affected, the symptoms will be those of migraine or of lesion of the ganglia. If it is the vessels in the extremities which are involved, the condition of digiti mortui or erythromelalgia or symmetrical gangrene may be produced.

A singular epidemic occurred in France in 1828 and 1830, which was termed acrodynia. Many persons were suddenly seized with vomiting and purging, and soon after the onset the extremities became red or mottled in blotches, swollen and edematous, and hot, painful, and tender. The attacks lasted from a few days to two months, and during this time the skin became thick and hard, the muscles weak and subject to spasms, and the general health was impaired. Relapses occurred in many cases, but all the patients finally recovered, and hence the exact nature of the disease was not ascertained.

All are familiar with the phenomena of angioneurotic edema, in which sudden swelling of a limb or a part of the surface of the body may occur, leading to great impairment of function and to much discomfort. When this invades the neck and larynx the disease may even prove fatal. This is an example of a vasomotor neurosis with trophic symptoms.

COURSE OF THE DISEASE

In any case of vasomotor neurosis the course of the disease and its termination will depend chiefly on its cause. If the cause is some permanent lesion of the nervous system, the condition will remain, and in this case the termination will depend on the severity of the symptoms. Angiospasm may be so severe as to lead to gangrene and the separation of the part affected, or may be so slight as to cause only subjective discomfort and a little pallor. Angioparalysis may lead to an extreme degree of congestion, which is attended by heat and pain at first, later by paresthesia and coolness, with increased liability on the part to be affected by changes in the surrounding air. This stage is succeeded by one of less marked dilatation of the vessels and a spontaneous partial recovery, although the more moderate symptoms may continue indefinitely and seriously impair the function of the part. If the cause is a temporary derangement of function in the vascular mechanism, is reflex irritation which can be removed, or is a curable organic disease, the symptoms will subside rapidly or gradually and perfect recovery may follow. If the condition is one of irritability in the vasomotor centers, producing alternations of flushing or pallor, such as is observed in nervous exhaustion, it may recur irregularly for a considerable length of time until the causative condition can be removed.

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[9] Mitchell, Weir: Injuries of Nerves.

[10] Mitchell, Weir: Am. Jour. Med. Sc., July, 1878.

[11] Straus: Arch. de Neurol., i, 536.

[12] Angel: Arch. f. Psychiat., xv, 618.

[13] Fox: The Influence of the Sympathetic System in Disease, London, 1885.

I fear that I have delayed you already too long in the presentation of this rather complex and intricate subject. If I have been able to put before you a summary of the many interesting conditions which we are constantly meeting in practice and affording you an explanation of symptoms not wholly understood, I shall have accomplished the task I set out to perform.

5 West Fifty-fourth Street.

ABSTRACT OF DISCUSSION

Sir James Grant, Ottawa, Canada: I came here from Canada especially because I knew that Dr. Starr was to deliver an address at the opening of this Section of the American Medical Association. About twenty years ago I had the pleasure of addressing this Association at Newport, when no less a man than the great Bancroft, the historian, one of the finest intellects probably that this country ever produced, occupied the place of chairman. In looking around this great meeting to-day I was shocked to realize that many of my dear old friends whom I met on that former occasion had passed away. But in doing so they left a magnificent record scientifically in this great republic.

I have listened with pride and pleasure to the admirable address delivered by Dr. Starr on the nervous system. It is *multum in parvo*. Nothing seems to have escaped him. We know perfectly well that of all the structures of the human body there is none more complex in its organization, more difficult to define, more irregular as regards the distribution of nerve force, and sometimes nothing more latent as regards diseases, that affect it than the nervous system; but suffice it to say that the advances in the study of nervous and mental diseases made within a short time are so characteristic and so definite, and show such satisfactory progress in our profession, that I am sure that with the many masters here on the nervous system to-day it is unnecessary for me to occupy the time or the attention of the audience. But there is one fact that struck me to-day, and that is the reference to congestive action in centers of the nervous system. Coming as I do from a great manufacturing center, where thousands of people are constantly employed in the great lumber trade, I have time and again been amazed at the recoveries of some of these men under injuries to the brain and through the skull. I have seen large portions of the skull and of the brain tissue removed, and still the individual make a splendid recovery, contrary in every way to my experience; and in the investigation of these cases I found that the men who made those recoveries were men who had little or no education, men who perhaps could not write their own names. We know perfectly well that there is nothing that increases the vascularity, that excites the nerve centers to a greater degree, than excessive education. In fact, to-day many persons get their brains so crowded and crammed with information that the practical utility of the brain is in a large measure lessened, just the same as the usefulness in a field that has been overcropt year after year. What we want now is practical information; and let me say this, that the ordinary individual who has no education whatever will stand three or four times the hammering of the skull and taking away of the brain tissue than the ordinary individual who is highly educated will. I merely wish to mention this fact to show what education does as regards storing up latent energy in nerve tissue, and how it guides and directs, in large measure, the development and the progress of disease.

Tonsillectomy.—There is less danger of injuring the deep tonsillar vessels if the pressure is made from inside with the instrument than when it is exerted on the outside. Hard tonsils with much connective tissue are better removed by a cold snare than by a sharp instrument, as less bleeding occurs. An hypertrophied lingual tonsil sometimes causes a heavy, sore feeling at the base of the tongue.—*American Journal of Surgery.*

Original Articles

THE CLINICAL STUDY OF A SERIES OF CASES OF INSANITY *

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Last summer we were enabled to make a systematic study of a series of patients admitted to the hospital from the middle of June to the middle of August. This study was undertaken without preconceived ideas, and included the cases in the regular order of their admission to the hospital. From this number sixty were selected in which we were able to get a fairly full history of the antecedents of the illness, and the conditions connected with its incidence.

After the patients came into the hospital they were placed under practically experimental conditions, as all of our patients are; but in addition we made a systematic study of the blood and stomach contents, as well as the urine, with the object of noting the relation between digestion and metabolism, and the mental condition, not from the laboratory point of view, but from the standpoint of the clinical bearing of this relation. That is, of what nature, and how extensive were these metabolic disturbances, as manifested in the perverted functioning of the vegetative organs, and what was the effect of this perverted functioning in determining the incidence of the mental aberration?

The data included are the family and personal history of the patient, the record of the onset of the mental disturbance, and the clinical study of the individual during the first month of his residence in the hospital. The effort has been made to put this study graphically into a table, including in each case an abstract of the findings, except the urinalysis; which is included under the general head of renal inadequacy. This inadequacy is determined by diminution in the amount of urine, and failure to excrete nitrogenous waste.

In the 60 cases included, 33 patients were men and 27 were women. Sixteen of the patients were under twenty-five years of age; 40 between twenty-five and fifty-five years; while 4 were fifty-five years old and over.

In 38 cases nutrition was seriously impaired; 35 patients suffered from insomnia; 49 were constipated; while in 49 cases there was some degree of renal inadequacy. Nine patients had some acute form of body disease; while 47 had some form and degree of chronic degenerative disease in the vegetative organs.

Of the acute disease conditions, there was 1 case of intestinal infection, 3 of urethritis in women, and 1 of gonorrhea in a man. There was one case of persistent headache, 1 case of typhoid fever, and 2 cases of pulmonary tuberculosis. Of the 27 women, 16 suffered from the effects of puerperal trauma, 11 had leucorrhea, 3 hemorrhoids, 2 chronic pelvic infection, 1 varicose veins, and 2 goiter.

The blood was examined at intervals of a week for the first four weeks of the residence of the patient, with the following general results: In 2 cases there was erythrocythemia, in 1 case hemoglobinemia, in 10 cases relative lymphocytosis, in 5 cases absolute lymphocytosis, and in 1 case lymphocythemia. There was 1 case of eosinophilia, 1 case of leucopenia (a case of typhoid fever), 12 cases of absolute leucocytosis, and 6 cases of relative leucocytosis. We could not determine that there was any significance in the blood findings, except in the cases of acute body disease, and we were astonished to find anemia so infrequently. The nearest approach to a relational condition was in the cases in which vitality was markedly impaired. In these cases there was either a relative or an absolute lymphocytosis.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* Owing to lack of space, the very extensive table which forms part of this article has been omitted from The Journal. It appears in the author's reprints, however, a copy of which will be sent by the author or by The Journal on receipt of a two cent stamp, provided the request is received within six months.

The stomach was emptied in each case the morning after admission, with apomorphin, and at intervals of a week for four weeks. A balanced ration was given instead of the ordinary test meal, so that we might know the functional capacity of the stomach under ordinary conditions.

In thirty-nine cases pepsin was either much diminished or absent, and lab was absent in eight cases. In forty-nine cases there was hypochlorhydria, and in two cases hyperchlorhydria. The acids of fermentation were present in forty-nine cases, usually lactic and butyric acids. Bacteria were present in forty-one cases, commonly the Oppler-Boas bacillus, and next in frequency the *Bacillus lactis aerogenes*. Mucus was increased in ten cases; while in one case all of the normal constituents of the gastric juice were absent, and in one case of delirium, at first, mucopurulent material *only* was obtained.

It is of interest to note that in the case in which there was complete absence of the constituents of the gastric juice, there was intense depression which had existed for some time, and in all of the cases in which pepsin and lab were absent there was marked depression, with self-depreciation or persecutory ideas. As the stimulus to gastric secretion is primarily emotional, it is not surprising that this function should be so considerably influenced by the mental condition of the individual; nor that the belief in poisoning or obstruction to the entrance of food into the stomach should so commonly be associated with uncomfortable gastric sensations, a foully coated tongue, chronic nasopharyngeal inflammation, and bad teeth. Further proof of the relation between the mental and physical condition was found in the effect of gastric lavage and the necessary medication in dissipating the ideas of poisoning and also relieving the intensity of the depression.

The urinalysis is not included in the table, except as to the statement of the result, and the condition of the kidneys. In all of the cases in which the urine was reduced below 1,000 c.c., the nitrogen output below 15 gm., and chlorids below 5 gm., we believe renal inadequacy to be present. We have not found albumin and casts to have much significance with relation to the functional capacity of the kidneys, except in so far as the presence of albumin might interfere with the osmosis of organic salts, and thus intensify the chronic intoxication. We have noted, also, that there is a definite coincidence between the return of the kidney function to normal and improvement in the mental condition.

We are debarred from information as to neurologic conditions obtained through the cooperation of the patient, so that we are able to note only what information may be obtained by direct observation. It so happened that there was no gross nervous disease present in any of the cases included in this study. There was tremor present in the tongue, facial muscles, or limbs in forty-six cases; the pupils were dilated in forty-eight cases. These, as well as the other phenomena observed, apparently had no special significance, but were dependent on the general physical condition of the patient, and disappeared as he improved. The superficial reflexes were diminished or absent in thirty-one cases, and exaggerated in three cases. The knee-jerk was exaggerated in twenty-five cases, and diminished or absent in fourteen cases. It was of interest to note, as is the rule in our experience, the association of diminished or absent superficial reflexes with exaggerated knee-jerk, but we have not noted the converse of this association.

Some years ago I made the following statement with regard to heredity with relation to insanity, and as further experience has confirmed the conclusions therein expressed, I can not do better than to quote from it here, with the necessary additions to make them applicable to this paper:

> The definition of heredity with relation to insanity is as much involved by difference of opinion as to its significance as is the definition of insanity. The common conception of this relation is that the insanity is not the result of hereditary conditions, unless the immediate progenitors or collateral relatives of the individual have been insane. The equation is not so simple, however.

It is a reasonable assumption that there is no family whose history, if carefully scrutinized for three generations, will not disclose considerable evidence of mental aberration!

> Besides, the parents of the insane individual may be sound mentally, but the victims of some constitutional disease that will affect adversely the development of the child. In consonance with the results of recent discoveries in biologic chemistry, we may believe that there is a limitation of the potentiality in the *different parts of the organism in each individual*, and that this limitation applies to the capacity of the organism as a whole to meet the conditions in the environment.
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> We know from observation, both clinical and general, that this potentiality is seldom equal in all parts of the organism. So that, while the individual may have been able to meet the conditions in the environment in which he was born and grew up, he would not be equally capable to meet the conditions in *an environment differing materially from his own.* If this is true of the apparently normal individual, how much more is it true of the individual who for any reason is not uniformly developed, or whose capacity is limited.

The history of insanity among the immigrant population of the northwest is an excellent illustration of this contention. In recent years there has been a great deal of assisted emigration from northern, eastern and southern Europe, and a large number of these immigrants become insane within a comparatively short time after settling in this country. These people, never very vigorous mentally, have, while living under a paternal government, in the care of a parental church, and with a fixed social status, lived their lives without evidence of mental aberration sufficient to attract attention. In this country, however, under the stimulus of social and industrial competition, with political license and absence of parental religious restraint, they break down mentally, because of their inherent incapacity, and rapidly become demented. Again, when, as is now so frequently done, these people are returned to their native country by the government, they take up their lives where they left off in coming to America, and get along as they did before.

> There is further illustration in the phenomena of senility: the irregular manner in which its processes are usually manifested, and the frequency of its premature appearance, both

physical and mental. It follows, then, that this insanity or limitation of potentiality, which may manifest itself in instability, incapacity, or defect in any part of the organism, must have its origin in an inherent incompleteness that handicaps the individual from the beginning of his existence. Following the law of degenerative processes, those parts of the organism that are latest in the order of development and most complicated in their structure and function will be the first to be limited in their capacity and to show the evidence of lessened potentiality. For this reason, no matter what the nature of the incapacity in the parents, in the offspring the potentiality of the nervous system is, other things being equal, most likely to be limited. The recognition of hereditary influence has, therefore, to take into consideration the transmutation of form in the transmission from one generation to the other of those recessive conditions that are commonly called diathetic. That is, any condition that produces somatic degenerative changes in the organism of the parent may be manifested in brain degeneration or mental aberration in the offspring. Thus the children of the syphilitic, alcoholic, gouty or tuberculous, may be, and commonly are, the victims of degenerative disease in the nervous system and insanity. So that while, as generally understood, the children of the victims of these diathetic conditions who become insane, do not directly inherit the tendency, practically they do, by the transmutation of the diathetic condition between parent and child.

In twenty-four cases no history could be obtained of constitutional conditions present in parents or near relatives, but this does not prove that, in these cases, there was no constitutional disease! To quote Maudsley: "A man may be ever so conscientious and upright, but when it comes to his family history he will lie with perfect equanimity." Besides, a great many of our patients know nothing about their families, nor would they recognize the evidence of instability or defect as such. In 9 cases there was a history of alcoholism, in 8 cases, a history of cancer, in 13 cases, of insanity, in 14 cases, of phthisis, in 2 cases, of rheumatism; while in 8 cases one or both parents were neurotic. In some of the cases there was a history of both insanity and phthisis, and in 1 case insanity, phthisis, and cancer. In 1 case a member of the family in the same generation had cancer; in 10 cases a brother or sister was insane; while in 5 cases the concurrent disease was phthisis. It is worthy of note that there was one more case with an heredity of phthisis than there was with an heredity of insanity; also, that in the majority of those cases in which a brother or sister was insane, the family history was that of tuberculosis rather than of insanity. In 1895 I read a paper before the American Neurological Association in which this relation of insanity with phthisis was treated of in detail. The conclusions then expressed have been amply confirmed by the observations of the past fourteen years.

In 43 cases there was auditory hallucination, in 18 cases visual hallucination. In 10 cases there was gustatory, in 2 olfactory, and in 6 cases tactile hallucination. In 8 of the cases either delirium or dementia prevented us from determining the form of sense perversion. In 1 case there was both visual and tactual hallucination, in 12 cases visual and auditory, in 1 case visual and gustatory, in 1 case visual, gustatory and tactual, and in 1 case visual, auditory, and gustatory hallucination. In 1 case there was auditory, gustatory, and olfactory, in 6 cases auditory and gustatory, and in 2 cases auditory and tactual hallucination.

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Further, we have found, in the history of these people, that their beliefs with regard to their environment excited neither surprise nor comment in the family, or among the neighbors and friends, until these beliefs were translated into aggressive interference with the convenience or welfare of others, by acts of violence toward person or property, the disposition toward seclusion, inability or refusal to work, or the development of bodily habits that made personal care necessary. All that differentiated these manifestations, in the mind of the community, from ordinary criminal acts, or the in-erythrocythemia, in 1 case hemoglobinemia, in 10 cases relative lymphocytosis, in 5 cases absolute lymphocytosis, and in 1 case lymphocythemia. There was 1 case of eosinophilia, 1 case of leucopenia (a case of typhoid fever), 12 cases of absolute leucocytosis, and 6 cases of relative leucocytosis. We could not determine that there was any significance in the blood findings, except in the cases of acute body disease, and we were astonished to find anemia so infrequently. The nearest approach to a relational condition was in the cases in which vitality was markedly impaired. In these cases there was either a relative or an absolute lymphocytosis.

The stomach was emptied in each case the morning after admission, with apomorphin, and at intervals of a week for four weeks. A balanced ration was given instead of the ordinary test meal, so that we might know the functional capacity of the stomach under ordinary conditions.

In thirty-nine cases pepsin was either much diminished or absent, and lab was absent in eight cases. In forty-nine cases there was hypochlorhydria, and in two cases hyperchlorhydria. The acids of fermentation were present in forty-nine cases, usually lactic and butyric acids. Bacteria were present in forty-one cases, commonly the Oppler-Boas bacillus, and next in frequency the *Bacillus lactis aerogenes*. Mucus was increased in ten cases; while in one case all of the normal constituents of the gastric juice were absent, and in one case of delirium, at first, mucopurulent material only was obtained.

It is of interest to note that in the case in which there was complete absence of the constituents of the gastric juice, there was intense depression which had existed for some time, and in all of the cases in which pepsin and lab were absent there was marked depression, with self-depreciation or persecutory ideas. As the stimulus to gastric secretion is primarily emotional, it is not surprising that this function should be so considerably influenced by the mental condition of the individual; nor that the belief in poisoning or obstruction to the entrance of food into the stomach should so commonly be associated with uncomfortable gastric sensations, a foully coated tongue, chronic nasopharyngeal inflammation, and bad teeth. Further proof of the relation between the mental and physical condition was found in the effect of gastric lavage and the necessary medication in dissipating the ideas of poisoning and also relieving the intensity of the depression.

The urinalysis is not included in the table, except as to the statement of the result, and the condition of the kidneys. In all of the cases in which the urine was reduced below 1,000 c.c., the nitrogen output below 15 gm., and chlorids below 5 gm., we believe renal inadequacy to be present. We have not found albumin and casts to have much significance with relation to the functional capacity of the kidneys, except in so far as the presence of albumin might interfere with the osmosis of organic salts, and thus intensify the chronic intoxication. We have noted, also, that there is a definite coincidence between the return of the kidney function to normal and improvement in the mental condition.

We are debarred from information as to neurologic conditions obtained through the cooperation of the patient, so that we are able to note only what information may be obtained by direct observation. It so happened that there was no gross nervous disease present in any of the cases included in this study. There was tremor present in the tongue, facial muscles, or limbs in forty-six cases; the pupils were dilated in forty-eight cases. These, as well as the other phenomena observed, apparently had no special significance, but were dependent on the general physical condition of the patient, and disappeared as he improved. The superficial reflexes were diminished or absent in thirty-one cases, and exaggerated in three cases. The knee-jerk was exaggerated in twenty-five cases, and diminished or absent in fourteen cases. It was of interest to note, as is the rule in our experience, the association of diminished or absent superficial reflexes with exaggerated knee-jerk, but we have not noted the converse of this association.

Some years ago I made the following statement with regard to heredity with relation to insanity, and as further experience has confirmed the conclusions therein expressed, I can not do better than to quote from it here, with the necessary additions to make them applicable to this paper:

> The definition of heredity with relation to insanity is as much involved by difference of opinion as to its significance as is the definition of insanity. The common conception of this relation is that the insanity is not the result of hereditary conditions, unless the immediate progenitors or collateral relatives of the individual have been insane. The equation is not so simple, however.

It is a reasonable assumption that there is no family whose history, if carefully scrutinized for three generations, will not disclose considerable evidence of mental aberration!

> Besides, the parents of the insane individual may be sound mentally, but the victims of some constitutional disease that will affect adversely the development of the child. In consonance with the results of recent discoveries in biologic chemistry, we may believe that there is a limitation of the potentiality in the different parts of the organism in each individual, and that this limitation applies to the capacity of the organism as a whole to meet the conditions in the environment.
>
> We know from observation, both clinical and general, that this potentiality is seldom equal in all parts of the organism. So that, while the individual may have been able to meet the conditions in the environment in which he was born and grew up, he would not be equally capable to meet the conditions in an environment differing materially from his own. If this is true of the apparently normal individual, how much more is it true of the individual who for any reason is not uniformly developed, or whose capacity is limited.

The history of insanity among the immigrant population of the northwest is an excellent illustration of this contention. In recent years there has been a great deal of assisted emigration from northern, eastern and southern Europe, and a large number of these immigrants become insane within a comparatively short time after settling in this country. These people, never very vigorous mentally, have, while living under a paternal government, in the care of a parental church, and with a fixed social status, lived their lives without evidence of mental aberration sufficient to attract attention. In this country, however, under the stimulus of social and industrial competition, with political license and absence of parental religious restraint, they break down mentally, because of their inherent incapacity, and rapidly become demented. Again, when, as is now so frequently done, these people are returned to their native country by the government, they take up their lives where they left off in coming to America, and get along as they did before.

> There is further illustration in the phenomena of senility: the irregular manner in which its processes are usually manifested, and the frequency of its premature appearance, both

physical and mental. It follows, then, that this insanity or limitation of potentiality, which may manifest itself in instability, incapacity, or defect in any part of the organism, must have its origin in an inherent incompleteness that handicaps the individual from the beginning of his existence. Following the law of degenerative processes, those parts of the organism that are latest in the order of development and most complicated in their structure and function will be the first to be limited in their capacity and to show the evidence of lessened potentiality. For this reason, no matter what the nature of the incapacity in the parents, in the offspring the potentiality of the nervous system is, other things being equal, most likely to be limited. The recognition of hereditary influence has, therefore, to take into consideration the transmutation of form in the transmission from one generation to the other of those recessive conditions that are commonly called diathetic. That is, any condition that produces somatic degenerative changes in the organism of the parent may be manifested in brain degeneration or mental aberration in the offspring. Thus the children of the syphilitic, alcoholic, gouty or tuberculous, may be, and commonly are, the victims of degenerative disease in the nervous system and insanity. So that while, as generally understood, the children of the victims of these diathetic conditions who become insane, do not directly inherit the tendency, practically they do, by the transmutation of the diathetic condition between parent and child.

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Further, we have found, in the history of these people, that their beliefs with regard to their environment excited neither surprise nor comment in the family, or among the neighbors and friends, until these beliefs were translated into aggressive interference with the convenience or welfare of others, by acts of violence toward person or property, the disposition toward seclusion, inability or refusal to work, or the development of bodily habits that made personal care necessary. All that differentiated these manifestations, in the mind of the community, from ordinary criminal acts, or the incidence of disease, was their persistence without regard to motive, and the absence of apparent physical disorder. The converse of these connotations in the community mind is shown by the frequent commitment to hospitals for the insane of patients ill with typhoid fever, pneumonia, and sometimes acute tuberculosis, because the noise and motion accompanying the delirium have obscured the evidence of the physical condition, or attracted attention away from it.

Among the patients included in this study four were so defective as to be imbecile, and their mental disorder was manifested by incapacity, furtive suspicion, and explosive violence. In three men there was mental reduction and sexual gluttony, and two of these men, who were alcoholics, had the characteristic belief in marital infidelity; also gustatory and olfactory hallucination, dependent on indigestion and constipation, and resulting in ideas of poisoning. In two cases there was aggressive religiosity, the loss of control manifesting itself in attempts to impress on others by violence the militant commands of the Deity. In two cases there was religiosity with exaltation, accompanied by beatific visions, the things seen being suggested by the morbid egotism of the individual, but always in consonance with the conditions in the environment, and the nature of the experiences of those living under similar social conditions, and with like intellectual capacity. In four cases there was religiosity with self-depreciatory ideas, resulting from pietistic comparison, and denunciation by the Deity. These cases were suicidal also. In ten cases the deterioration was so rapid that there was incapacity, suspicion and fear only, without defined or expressed aberration. In thirteen cases the persecutory ideas led to aggressive resentment toward those to whom the voices heard and the acts anticipated were attributed. In twenty-two cases, on the contrary, the voices heard and the things seen prompted seclusion instead. Here, too, those experiences, communal, and individual, that connoted anticipated sources of danger or deprivation, would suggest the manifestations of aberrant mental activity. As our general experience conforms to these special observations, it would appear obvious that the insanity present in these individuals can not be said to have a special form apart from their natural intellectual processes, unless it is implied that the relatives and friends of the individual, without regard to the conditions in the community environment, have a definite form of mental endowment. The history of the individual in these cases, especially from the period of puberty, showed limitation of mental capacity, and the manifestations of mental disorder were determined by the degree and extent of this incapacity, in consonance with the conditions in the community environment. The prime factor in the outbreak was, in each case, mental reduction to the point at which control of the activities manifested in conduct was lost.

The careful study of these cases, clinically, shows that somatic conditions, which interfered with the general physical welfare of the individual, were the determining causes of the deterioration that resulted in the insanity; and the extent and permanence of these changes was the factor on which the result in each case depended. Broadly speaking, so long as the processes of anabolism and katabolism are near their proper relation, the imperfectly developed higher functions of the brain are sufficiently well performed to maintain the relations of the individual with his environment; but with the incidence of the conditions of physical deterioration, the processes of katabolism gradually dominate, and degeneration begins. We are too prone to think of degeneration as a result rather than as a process, and to ignore the fact that this process involves disturbance of the equilibrium between nutrition and waste; also that the process, as affecting nutrition, is primarily quantitative, and that the process may be confined for a long time to deterioration in functional capacity, without morphologic change. To illustrate, the process of arteriosclerosis, with the resulting loss of elasticity in the vessel wall, particularly in the non-anastomosing and poorly supported vessels of the cerebral cortex, interferes very materially with the quantity of blood going to the brain, while this same process in the splanchnic area interferes equally with the functions of the vegetative organs, so that assimilation and elimination are interfered with. It has been our observation, and was very apparent in the history of the cases included in this study, that these somatic changes and the interference with the vegetative functions were always antecedent to the mental disorder. In other words, the brain was not only poorly nourished, but there was chronic intoxication also.

Just as the development of the nervous system is in the direction of the integration of functions that are simple, direct, and unrelated, into the complex, indirect, and correlated, so in its degeneration there is disintegration toward the direct, simple, and unrelated; and this disintegration is primarily functional, and morphologic later only. The result is shown first with relation to vegetative function, is motor incidentally only, and may show no evidence of prehensile or locomotor involvement at all; or at most so far only as coordination is involved, because the functions of direction and control are alone disturbed. So, too, in disintegration in the so-called higher functions of the brain, incoordination comes first, and may be the only manifestation, as confusion; but if the degenerative process goes further, it follows the regular sequence of failure in relation, direction, and control. As the result of the first there is confusion, and of the second, perversion of the special sense function; while the sequence to this confusion and perversion is the failure to correlate the impressions from the environment. That is, there is the inability to adapt internal to external relations.

ABSTRACT OF DISCUSSION

Dr. T. Diller, Pittsburg: This paper recalls to my mind one which I presented to the American Neurological Association a few years ago in which I took the position that we make a mistake in speaking of mental diseases and physical diseases. There is only one kind of disease in my opinion and we should look at it in this way, namely, physical disease. Physical disease expresses itself in manifold ways. There are sensory, motor, and glandular diseases of various sorts and expressions, and among the expressions of physical disease are mental symptoms. Indeed I would venture the broad general assertion that there is no disease of any importance which does not have some mental expression. That is true in fevers and in all the ordinary painful affections; and most of these things of course we do not call insanity. When the mental symptoms are prolonged or profound and pass beyond a certain arbitrary line which each man erects for himself, more or less, we say that the individual is insane; and when the mental symptoms become sufficiently profound we must adopt certain practical measures and the law must step in. While it is not true in the case of most neurologists, yet in the eyes of the general public, and too often of the general practitioner, a broad distinction is made between so-called mental and physical disease. This view should be combated. Dr. Tomlinson has been doing original and splendid work. He has been teaching the doctrine that all disease is physical.

I would like to speak of a thing that I have thought of, and which I have come to believe in more and more firmly as time passes, and that is the necessity of teaching and studying this subject in a concrete way, namely, by psychopathic wards—not at a great distance from the city, not in connection with an ordinary insane asylum, but in intimate association with an ordinary general hospital. I feel sure that there ought to be a psychopathic ward in connection with every great university hospital, and in this ward disease should be studied in exactly the way that Dr. Tomlinson has pointed out. There is a psychopathic ward in Pittsburg, in connection with St. Francis Hospital. In many ways it is not ideal, but we are trying to work along the lines indicated. St. Francis is one, I think, of only two or three similar general hospitals in the United States providing a psychopathic ward.

DR. H. A. TOMLINSON, St. Peter: Since coming to Atlantic City I had the opportunity to discuss with a medical friend a case in which he went into the most minute details of the mental condition of the patient from the standpoint of modern German metaphysics, and he wondered why there had been no improvement in the condition of the patient. I discussed the case from the standpoint described in my paper, and found that there was well-defined evidence, not only in the heredity of the patient, but in the personal history, of the presence of physical conditions sufficient to determine the grafting of mental disturbance on an unstable nervous system; as well as the signs of chronic intoxication, the persistence of which would preclude recovery. I firmly believe that if we are going to deal with insanity successfully, we must give up this futile dallying with metaphysics, and recognize that we are dealing with the general organism.

TRAUMATIC NEUROSIS

WITH REPORT OF CASES *

EARL E. GAVER, M.D.
Lecturer in Neurology in Starling-Ohio Medical University; Superintendent of Rodebaugh Sanatorium
COLUMBUS, OHIO

Since the days of Erickson there have been repeated efforts to establish traumatic neurosis as a particular type of disease until at present it is fairly generally accepted, although not uniformly interpreted. Erickson failed to separate the organic and functional cases, and it was not until Oppenheim and Strumpell and others studied the question that the organic conditions were eliminated. Traumatic neurosis is a generic term, and, when speaking of a particular case, we should designate hysterical form, neurasthenic form, psychic form, or mixed form. Such a disposition is made of the term dementia præcox with its different forms. It occurs to me that the difficulty in the use of this term arises out of the fact that the name is based on etiology in conflict with a terminology enforced by the clinical symptoms. This difficulty is particularly frequently encountered in the nomenclature of nervous and mental diseases; however indefinite the term may be, whenever it is used, we usually think of a functional disorder and the possibility of a legal aspect of the case as well as a medical. This dual feature of these neuroses has forced them into a position of considerable importance in the practice of law as well as of medicine. Daily physicians are called on to examine such cases, either when litigation is probable or already involved, and it is in relation to the medicolegal aspect that a serious problem exists for a successful solution. Unfortunately, the legal profession and the medical entertain some opposing views concerning such cases. The objective and subjective symptomatology seems to be the ground of contention between the legal minds and the medical. The law insists on recognizing the objective symptoms only, while the physician, recognizing the importance of these, also makes important use of subjective symptoms, real and unreal, in his diagnosis. It seems to me that the error committed here lies in the fact that all subjective symptoms are stricken out of evidence, without regard to the discriminating skill of the physician, simply because of the possibility of all or part of them being assumed. It is true that it is difficult for attorneys to understand how diseases may exist without a gross organic lesion; therefore, they are loath to regard a functional disorder as a real disease and look on them with a great deal of suspicion. Even when the physician maintains that a disease exists, if an organic foundation can not be discovered, the lawyer will look on the assertion with considerable doubt. Indeed, it is this possibility of fraud on the part of the patient, the attorney and the physician that has given such prominence to these traumatic cases. Fraud is exhibited on the part of the patient by malingering for the purpose of gain. Frequently it has occurred that attorneys cautiously aid and abet these endeavors, and also must we admit the fact that physicians are not too careful sometimes and persuade themselves to join or cooperate in these fraudulent attempts. The whole situation, it seems to me, is very much entangled and it too frequently happens that worthy persons fail to be properly compensated, and the unworthy ones recover damages unjustly.

How can this problem be solved so that each case is more surely to receive justice? Can we point to the German regulation of these matters and say that is the solution? I do not believe that the German system of insurance against accident is a perfect solution of the problem involved in this question, and yet it is a great improvement over no system at all, as in America. It seems to me that the great advantage of the German system lies in the fact that it has not the features which invite investigation. The disadvantage in this system is that it does create an inviting field for malingering and also establishes a means for the development of neuroses. It is fairly well recognized that the results of an accident are encouraged to become far more serious and pronounced by the prospect of a recompense or an allowance. Admitting this weakness in the German law, I still maintain that it is far better than the present loose and confusing methods pursued in the United States.

I hope that the three cases I am reporting carry with them sufficient interest and importance to warrant their record. The first is an example of traumatic neurosis (hysterical form), diagnosed as an organic case originally, the patient operated on for brain abscess, and the case later diagnosed as hysteria, which it proved to be. The patient became entirely well after having recovered damages from the city in which her accident occurred.

The second case is one of neurosis (hysterical form) in which is manifest a rather fragmentary dissociation of the personality. Usually when there is trauma there is also shock, psychical or physical or both, and, inasmuch as there is hysteria in cases of dissociated personality, we can expect trauma and its attending effects to be a fruitful cause of such conditions.

The third case represents a psychosis in which the head injury could be reasonably regarded as the cause. Of course, the fact that the patient had dissipated considerably should not be regarded as less than a contributing factor. There are remarkably few cases of insanity, comparatively, in which heredity, severe illness, dissipa-

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

tion, worry and other common causes can be eliminated and head injury be assigned as the true cause of the attack.

Case 1.—*History.*—A young woman, aged 19, teacher, American, on Feb. 18, 1906, at 10 a. m., was thrown out of a buggy in a runaway accident. She suffered a concussion of the brain, due to the head striking on the street. The point of injury was in the left temporal region about one inch in front of, and three inches above the ear. The skin was not broken. She was dazed for a moment but went on her way. A severe pain in the head developed and in the evening she became delirious. During the next four days she was conscious but suffered some pain in the head and back of neck. A physician was not called until three days after the accident, at which time she was in a maniacal condition, chattering and laughing continually. She tried to escape from the house, but could not balance herself sufficiently to walk well. Her pupils were greatly dilated and she complained of severe headaches. The entire scalp, posterior part of neck and shoulders, and cervical portion of the spine were extremely hyperesthetic. The head was drawn to the left side. No anesthesia or paresthesias were discovered. She slept very little. There was no effusion about the eyes, and no escape of blood or serum from the nose or ears at that time. This condition lasted about ten days, after which time the patient became quiet, slept well, ate well, and seemed to be in a fair way to recover. She had a continuous frontal headache for nine weeks; for ten weeks had furuncles in both external auditory meati. About two weeks prior to her admission to the hospital, her ears began to discharge.

Course of Disease.—The patient was admitted to the hospital May 7, ten weeks after the accident. She was quiet and affable and did not exhibit any noteworthy symptoms for four weeks, except pain and tenderness about her ears and some discharge from them. Treatment by a specialist soon effected a recovery from the ear conditions.

June 12, 1906: The patient was observed twitching while asleep. She was aroused and the twitching at this time ceased. After that time she was more nervous and her right leg twitched most of the time, especially after any exercise. She stated that both her right arm and right leg were numb, especially in the distal portion, that is, below the elbow and below the knee. Her hand grasp was distinctly weaker on the right than on the left, and in walking she was inclined to drag her right leg to a slight but perceptible extent. At this time the question of diagnosis became a matter of great importance and the attending physicians were somewhat in doubt as to whether they were dealing with an organic condition or one of hysteria.

June 14, 1906: The patient's hand was noted to twitch in an irregular manner. This twitching was not confined to the hand, but extended to the muscles of the forearm and upper arm. It appeared to be worse when the patient was somewhat excited or attention was drawn to the matter. The patient stated that occasionally her right limb twitched also, but this was not noted during the examination. The pupils were equal, moderately dilated and reacted to light. In the past it had been frequently noted that the pupils were considerably dilated. The action of the facial muscles was symmetrical. The tongue protruded in a straight line with good movement of the same in either direction. The hand grasp in the right side was extremely weak, the pressure being very gentle; the power of flexion and extension at the wrist and elbow also extremely weak. The patient could not, while lying in bed, raise the hand directly to the nose, but could do so by sliding the hand along the body. The power in the lower extremity on the right side was also much diminished. The knee-jerk was very much exaggerated, and there was a tendency to the patellar clonus. No ankle clonus was present; no plantar response whatever could be elicited. On the left side the reflexes were normal. There was complete loss of sensation for touch, temperature and pain in the right lower extremity, up to the groin. About one inch above the anterior superior spine of the ilium a pin-prick coulid be felt, but simply as a dull sensation. The same condition prevailed in the upper extremity. A pin-prick could not be felt at all until the lower deltoid region was approached from below. In this deltoid area and between that point and the medium line a pin-prick which was made quite deeply could be felt as if it were the pin-head. Tactile sensation was lost all over the right side for any ordinary touch, although, as stated above, the deep pin-prick could be felt in the region named and over the trunk on the right side as a dull sensation. Both the temperature and pain sense were entirely lost over the whole right side. This anesthesia extended from the median line of the body in an irregular line varying from one to three inches to the left of the median line. Over the left lower extremity, and to some extent over the whole left side of the body, sensation was slightly impaired, touch not being readily perceived, and pin-pricks in places being felt as dull points. This, however, was not constant and was more marked over the left lower extremity than other parts. Motor power on the left side was good. In examining the cranium, especially over the left side where the patient states she received her injury, there appeared to be a slight depression over the posterior portion of the left frontal bone. This depression, however, was slight and may have been congenital. The patient stated that when the head was pressed firmly on each side with the hands, there was a dull ache within. The patient had a temperature of 100 degrees the previous night, but this morning her temperature was normal. Mentally she seemed a little excitable and talked with less reserve than usual. Her conversation was entirely coherent, however, and showed no other abnormality than a little tendency to repeat herself, and to loquaciousness.

June 15, 1906: The following changes in the patient's condition were observed this morning: The patient's tongue was found to protrude decidedly toward the right when extended. There was considerable tremor of the right eyelid when the eyes were firmly closed. There was also some twitching about the mouth, especially when the eyes were closed firmly. There was distinct spasm of the lower limb during regular intervals. No plantar reflex of any sort could be obtained. The previous night, about 12:45, the patient had a localized convulsion, involving the right side during which she was apparently unconscious. She stated that just as she came out of the convulsion she felt the right side of her face twitch. This morning, about 4 o'clock, she had another similar convulsion involving the right side in which she rolled out of bed. During the day she had at least two similar attacks, with large movements involving the right side, and unconsciousness for a few seconds. Motor power was still almost entirely absent on the right side.

June 16, 1906: Consultation with the surgeon, otologist and neurologist was held. The balance of opinion favored a probable abscess in the left side of the brain and operation was recommended and done. The findings were negative.

June 26, 1906: Examination of tendon reflexes of arms showed them to be overprompt and markedly exaggerated; the one most noted was the action of the supinator longus. The condition existed equally in the arms. This morning she failed to protrude her tongue farther than her lips. Her speech was improved slightly, yet was defective, one side seeming to be more affected than the other. Her speech was rather spasmodic or measured with a certain emphasis regularly. She omitted some single words in a sentence occasionally. Sometimes she could not say some words. For example she said: "I seel so feepy." When conscious she was inclined to joke and talk considerably.

June 27, 1906: During the night the patient had many very severe convulsions, characterized by greater excursion of movements than at any previous times. It was noted that she had ten spasms within one hour, from 8 to 9 o'clock. The spasms followed at short intervals. During the intervals between the spasms she seemed to have regained consciousness quite temporarily. From about 1:30, she passed into a stuporous condition and remained there until 5 o'clock. Observations at 10 a. m. revealed that she had not improved as far as the convulsions were concerned, still having them at short intervals, perhaps not quite so severely, and with less range of movement. The convulsions, however, were generally characterized by severe jerkings, also rigidity and opisthotonus; invariably the back and neck were bent. Immediately following a convulsion, the patient would seem to be provoked at herself that she could not remain conscious and prevent the "spells" as she called them. Immediately after a convulsion she would say: "Oh, shoot, if I could get over this, I would be all right." During one of the conscious intervals she remarked that she felt well and enjoyed her breakfast very much. Her loquacious manner at this time did not appear to be quite normal, however. During these periods of apparent slight delirium, she would say and do things that perhaps she would have regretted if she realized them. She would at times, for example, criticize the appearance of her nurse, as well as the nurse's manner toward her, only to feel very badly about it when she accidentally learned that she had made these unkind remarks. She could protrude her tongue quite well. There did not seem to be any increase in the power of her right arm or hand. There was still a marked disturbance of the sensations. There was entire loss to tactile pain and temperature sense on the entire right side of the body, including extremities, face and head. This loss extended slightly beyond the medium line. We noted that this was more at the upper third of the chest where the loss extended to the nipple line. Below this on the chest, the limit was a line midway between the medium line of the chest and the line of the nipple. The only disturbance of sensation on the left side was a delay which amounted to three seconds. This was found to be on the entire left side. There was some amblyopia. The associated movements of the eye were very good. There was a loss of conjunctiva reflex in both eyes. There was a slight difference in the palpebral fissure, the left being greater than the right. She could not open her eyes widely. On looking upward, the eyes deviated equally to the right. There was a weakness of the entire right side of the face. In the movements of her face greater range could be noted on the left side than on the right. The tongue deviated on protrusion slightly to the right side. Her hearing was normal. Speech was improved although there was some defect yet. There was a peculiar measure in her speech and certain emphasis at intervals, and a thickening of the speech.

June 28, 1906: Examination revealed anesthesia of both nostrils, contraction of the visual field, dilated pupils with reaction to light but not to accommodation. Tactile sensation was retarded three seconds and after irritation was removed she would feel it for three seconds. The right half of the patient was still anesthetic; the mouth slightly drawn to the right. There is no improvement in the strength of the right limbs.

July 10, 1906: There was equal loss of tactile sense on the right hand, arm, legs and right side of face, head, neck and body; also on right side of the tongue; loss of sense of pressure to the right arm, hand and leg and right side of body. There was considerable exaggeration of the patellar reflex, yet it was slightly delayed. The tendon reflexes were generally exaggerated. At this time the visual disturbances were particularly noteworthy. At a distance of three feet the patient could not determine a toothpick or street car ticket. She could distinguish them at one foot distance. Three inches from her eyes she again lost the power of vision. Her vision varied from time to time, but at present she could only recognize objects between six and fifteen inches from her eyes. The two eyes were alike in this regard.

After being discharged from the hospital, the patient got along very nicely for several months. She brought suit against the city in which her accident had occurred and received a judgment for $8,000, and then had the following experience.

"January 20, the receiver [at the telephone office] struck my head [on the left side of the head at the seat of the former operation] and made me rather sick in my stomach right at first, and then I had a dreadful headache; didn't feel very well, but I pretended to feel all right, and worked two days. The evening of the second day I didn't feel very well, and began to feel rather queer in the right side; didn't know what was the matter. After awhile, I began to lose feeling on that side; I noticed I couldn't get my hand up very well. I wanted to pick the plug up, and I gradually lost use of my hand; got so I couldn't raise it up, and then I spoke to the chief operator and told her that I had to leave the board, and she helped me get my hat and coat on, and my mouth was drawn crooked all that time; when I got home I sat down and couldn't get up again. Later the doctor was called and gave me some medicine, but I kept getting worse until I couldn't use that side at all. The next day I felt weak and sick at my stomach. At first, I felt rather drowsy. I got so I could get up and walk around and use my foot by dragging it, but I couldn't use my hand for some time. For about three or four weeks I couldn't use my hand, couldn't lift it up. I had to move it around where I wanted it; just had no use of it at all. It seemed to affect my arm and face more than anything else. It affected my leg for some time, but not as long as my hand. I went back to work a week afterwards. When I went back I couldn't use my hand. I expect it was about two months before I got feeling in my hand again so that I could use it, but the sensation wasn't back yet. About the time I got over that the second attack came on, but it only lasted a couple of days. It came on in the same way, but it was very light at that time. It seemed to affect the whole side of my body about the same time. The first thing I noticed I couldn't get my hand up to pick up the plug, but I hadn't tried to walk until I got up to go home; I couldn't walk very well. I walked home, but I didn't go very fast, and they couldn't understand me very well. I could talk, but then part of the time they couldn't understand what I was trying to say, something about like it was last summer. After the second attack I wasn't bothered that way any more."

The patient apparently has recovered and is now in a training school for nurses.

Case 2.—*History.*—A man, aged 30, machinist, American, fell from a line shaft onto a wheel lathe fourteen feet below, injuring his left shoulder slightly and causing a scalp wound one inch above left ear. He was unconscious for several hours. After a few days he was up and about but experienced what he termed "spells." *Wanderlust* characterized him now where before he was steady and settled. There were periods of lapse of memory during which he would quit his work, start out, and later find himself in some strange place. During these lapses, which were frequent and of varying duration, ranging from a few hours to a few days, he traveled considerably over the western states from Ohio to California, and eventually he landed in Columbus in August, 1906. He was committed to the hospital as a result of his strange behavior.

Attacks Observed in Hospital.—For several days he exhibited nothing noteworthy except the very unusual history of his experiences. A short time after his commitment the patient complained of having a dull throbbing pain low down in the occipital region. He felt very dizzy and after his evening meal was attacked by a spell of vomiting which made him feel very weak. He went to bed early (7:30) and was soon asleep. At 4:30 Thursday morning he was found lying on the bed in a semi-reclining position, with his eyes open, fixed and staring. He was told it was time to get up; he took no notice and made no reply. A few moments later he was again told to get up; he did so and sat on the foot of the bed, saying in an absent-minded manner as if talking to himself, "I am not going to work to-day; the machine will not work and I can not get that piece made." He dressed slowly and when told to wash himself and get ready for breakfast, did so in an offended manner. After he had prepared himself, he walked out on the veranda and sat down, taking no notice of anything around him, and staring off into the distance. He would not answer any questions, but kept saying, "I want my hat." He soon got up and walked into the hall-rack, picked up a hat, tried it on and on being told that it was not his, he laid it down and walked out on the veranda and sat down. He heard a locomotive whistle, which seemed to give him a happy thought. He immediately asked for his hat and walked rapidly down the hall and looked out of the window toward the railroad. Every time he heard a whistle blow, he would ask for his hat and hurry in the direction whence he heard the whistle. At 6:30 he was asked if he wanted any breakfast, and he said, "No," but when told he had better eat something, he went in to breakfast, sat down, drank a glass of water, and in a few minutes left the table hurriedly, and when about to leave the dining-room, said, "Good-bye, people." He went to his room, undressed, and went to bed, pulling the cover up over his head, and at 7 a. m., when asked how he was, he seemed to come to himself and asked about the time. He said he felt so very weak and tired that he did not know what to do. He asked for a drink of water and if he could have a cup of coffee. On being questioned as to his actions during the few hours previous, he said that he did not know a thing that had happened. Within the several weeks spent in the hospital under my observation, he had several attacks characterized chiefly by amnesia, desire to wander, sullenness and irritable disposition. Later he left the hospital apparently in a very much improved condition, and soon afterward enlisted in the army.

Later History.—Several months passed and nothing was heard of him until finally he wrote to me from Fort Leavenworth, telling of trouble he had got into there while on guard duty. He had been arrested for drunkenness and misconduct while on duty. It developed that he had been in one of his peculiar hysterical attacks; he later was discharged from the army. I did not hear anything more about the man for several months, when word came to me again that he was in trouble in some town down in New Mexico. I wrote to the authorities, giving them a history of his case, but have never heard from him since.

CASE 3.—*History.*—A man, aged 55, physician, weighing 227, with no hereditary taint, who drank considerable liquor, but had no luetic history, one evening was returning home in his carriage; his horse became unmanageable and he was thrown from the vehicle, rendered unconscious and remained so for forty-eight hours. He sustained a scalp wound along the right parieto-occipital junction. The fracture could not be determined. On return of consciousness he presented the following mental symptoms: Disorientation as to time and place; retrograde amnesia (periodical), disturbed perception, diminished sensibility, emotional weakness, memory fabrication, incoherent and rambling conversation; feeling of well-being. On the admission of this patient to the hospital, he did not realize the nature of the institution at all. When questioned concerning the condition of his health, he would declare he was perfectly well and objected to any treatment other than the physiologic remedies. Concerning the runaway accident he displayed fabrication of memory, describing the acident, why it occurred, and how trifling it was, he not having been injured in the least, telling how he got up from the ground and went about his usual business. With but little provocation he at times would exhibit considerable emotional irritability, while at others he would seem quite indifferent to any external stimuli; even such as are ordinarily regarded irritating. Often would he sit for an hour at a time seriously telling experiences (elaborated) to a demented catatonic who, of course, was not giving him any attention or reply. To his physician his tales of professional experiences were very fanciful and improbable. This patient, after a few weeks in the hospital, began to recover his mental powers and faculties, and recovered after a few months' illness.

ABSTRACT OF DISCUSSION

DR. A. C. BRUSH, Brooklyn: I object to the term "traumatic neurosis" as it implies a form of nervous disease due to injury, and does not tell the real story. The use of such a term in medicine is proper, but when we come, as Dr. Gaver has said, to deal with the legal side of the question, it impresses both court and jury with the idea that there is a distinct disease due to trauma, and this leaves the claimants and their counsel at liberty to play on the fancy and increase the severity of the case in the eyes of the jury. In dealing with such cases in court, I absolutely exclude that term and characterize the condition at once as hysteria or neurasthenia. The jury all know what hysteria is, and they all know what nervous prostration is; but they do not know what traumatic neurosis is; and the result is that that term has done more to rob corporations, city railroads and others, than anything else in the world. Again, many writers have too vague a way of stating the prognosis. The prognosis is that of neurasthenia.

DR. G. T. HARDING, JR., Columbus, O.: I can not agree with the statement that the term traumatic neurosis has done more to rob corporations than any other term used in medicine. Surely this group of medical men should not feel that a disabling neurosis, having its inception in the shock or injury of an accident, partakes of the nature of a fraud because it may be possible to demonstrate that certain mental processes have subsequently contributed to the patient's condition, or help to keep up his symptoms. No other class of medical men, and especially those who deal chiefly with organic disease, seem able properly to appreciate the seriousness of that mental instability that can arise from shock and injury, and that puts its victims in pitiful slavery to suggestions and mental representations. I seriously doubt whether this lack of insight on the part of the profession has resulted in more robbery of corporations than in injustice to a certain class of invalids; and for this reason I feel that neurologists should make an effort to educate their fellow physicians in regard to the true nature of traumatic neuroses.

DR. E. E. GAVER, Columbus: I did not mean to convey the impression that I believe that there is really such a distinct disease as traumatic neurosis. I think these cases are all hysteria, neurasthenia and a mixture of both, or psychoses.

EXPERIMENTAL PRESSURE ATROPHY OF THE THYROID

WITH BRIEF SUMMARY OF THE PRESENT KNOWLEDGE OF THE GLAND [*]

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INTRODUCTION

Up to a little over a hundred years ago, very scant attention was paid to pathologic conditions of the thyroid. In fact, endemic strumæ, at least in goitrous territories, were considered quite natural and even beneficial. The sporadic cases were, as a rule, confounded with tuberculous adenitis. Not until 1800, when Fodéré first described the difference between struma and cretinism, did the thyroid begin to attract any special attention.

During the last century such men as Eulenberg, St. Lager, Bircher, Wollfer, Kocher and others devoted much time and labor to study of the gland. Fresh stimulus was infused into the work by the occurrence of the condition now known as "cachexia strumipriva" following complete extirpation of the thyroid; by the discovery of iodin in the gland of Bauman, and by experimental work on the organ by Cyon.

In recent years the medical world has been swept by an epidemic of experimental work on the gland.

Abroad the Kochers, Bauman, Cyon, Oswald, Ewald, and a host of others, and in this country Halsted, Hunt, McCallum, Marine, Mayo and others, have done an enormous amount of excellent work.

I intend briefly to review the literature and to report the results of a year's research on the gland.

ANATOMY (COMPARATIVE)

Owing to the vast amount of work that has been done and is being done on the dog, I deem it to be of some interest to give briefly the anatomy of the gland of that animal. For the human anatomy I refer to text-books.

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[*] From the Hull Physiological Laboratory, University of Chicago; read before the Chicago Medical Society, April 14, 1909.

[*] On account of lack of space, this article is here abbreviated. The complete article is presented in the author's reprints, a copy of which will be sent by the author or by THE JOURNAL on receipt of a stamped self-addressed envelope, if the request is received within four months.

The dog has, as a rule, two glands situated in the lower and anterior aspect of the neck on each side of the trachea. In only one of fifty dogs did I find an intervening isthmus. Each gland is egg-shaped, brownish-red in color, and of variable size. The consistency is that of a human kidney. It is covered externally by a thin capsule. Posteriorly the gland is attached to the deeper structures by a kind of a mesentery through which runs the vessels, nerves and lymphatics.

The vascular supply is very abundant and probably relatively greater than in any other organ. Generally the gland is supplied by one artery which enters the gland at the superior pole. Sometimes, however, as in the human being, there are two, the superior and the inferior thyroid originating as in man. The veins form large trunks emptying into the internal jugular.

There is especially one prominent tributary which extends halfway around the gland on its external surface. This vessel may be appropriately termed the vena semicircularis and would be the one most easily used for the blood work on the gland.

The lymphatics are numerous, and of great size. The nerves are derived from the sympathetic and the pneumogastric. The important anatomic relations are similar to those in the human being.

CHEMISTRY

An enormous amount of work has been done on the chemical analysis of the gland, but with very opposing results. The following is the composition which is generally believed to exist in the average normal gland:

COMPOSITION

Inorganic—82 per cent. to 84 per cent.
  Water.
  Iodin.
  Phosphorus.
  Iron, etc.
Organic—17 per cent. to 19 per cent.
  Nucleoproteid.
  Thyreoglobulin.
  Albumin.
  Colloid.
  Fatty acids.
  Lactic acid.
  Xanthin.
  Hypoxanthin.
  Inosite.
  Leucin.

PHYSIOLOGY

FUNCTION OF THYROID (HISTORICAL)

The older authors attributed various functions to the thyroid, such as protection from cold (Wharton); protection for the large vessels and nerves (Luscha); some regulating connection with the vocal organs (Santorin Winslow); blood-forming function (Credé, Zesas); moderating the blood supply to the head (Maignien, Guyon); protection of the brain from hyperemia (Simon Waldeyer); taking up blood at night, producing anemia of brain and thus sleep (Fomeris); a means of draining blood from the lung, protecting it from congestion (Kocher); rudimentary lung (Grutzner); some relative function with the genital organs (Guilot, Lawson-Tait, Bennet, etc.).

The first attempts at experimental excision of thyroid were made in the forties by Astley Cooper, Bardeleben and Maignien, with doubtful results.

In 1856 Schiff, after numerous experiments, reported that all the animals died. His paper did not at the time receive any special attention.

When later on in 1882, however, Reverdin, Kocher, Billroth and Weis reported the enormous disturbance in man caused by thyroidectomy, Schiff, having withheld his final report, related his experiences with sixty thyroidectomized dogs, and then received the credit he deserved.

By these experiences with the human and animals, the peculiar condition later termed cachexia strumipriva was produced, and its close resemblance to myxedema noted.

The symptomatic results following thyroidectomy are those of myxedema in man.

To these formerly were added tetany, but that symptom is now definitely attributed to removal of the parathyroids.

ADMINISTRATION OF THE THYROID GLAND AND ITS EXTRACTS

In 1884 Calzi and later Fano and Zanda succeeded in alleviating the symptoms in thyroidectomized dogs by transfusion of blood from normal dogs. A few years later Vassale used an aqueous extract of thyroid intravenously with good results. This was followed by the subcutaneous use of similar extracts by Gley, Murray, Bertsowsky and others. All these experiments were performed on animals.

It was at first, in man, in cases of cachexia strumipriva that the use of the gland per mouth demonstrated such splendid results, showing a gradual disappearance of all the symptoms as long as treatment was continued.

The same results were later obtained in animals by Eisenberg, Lanz and others.

Since Bauman's discovery of iodin in the gland the important relation of iodin to the physiologic activity of the gland has been strongly emphasized by Oswald, Cyon, Magnus Levy and others, and it has been decided by these investigators that the substance known as iodothyrin is the active principle of the gland. Therefore, most experiments on the physiologic action of thyroid have been done with this substance, or the gland itself.

Cyon and Oswald found that on injection of iodothyrin or its mother substance, iodothyreoglobulin, there was a marked augmentation and increased strength of heart action with diminished blood pressure, and, as this occurred after section of both vagi or atropinizing of animal, they concluded that the result was obtained from direct action on the heart.

Kobert, Van Kraus, Friedenthal and Furth and Schwartz found no action of iodothyrin on the heart.

Cyon, from his experiments, finds that the excitability of the vagi is greatly increased by injection of iodothyrin. The stimulation of the central end of the cut nerve before injection caused very slight change, but after injection the same strength of stimulation caused, at times, complete stoppage of heart. Even after atropinizing the animal, there was momentary change in heart action. Furth and Schwartz report negative results from similar experiments.

METABOLISM (A) IN NORMAL MAN OR ANIMALS FOLLOWING ADMINISTRATION OF THYROID OR ITS PRODUCTS

The great metabolic phenomena caused by certain pathologic conditions of the gland or by its removal clearly demonstrate its vast influence on the nutritional changes in the organism.

In order to determine the particular changes taking place, numerous experiments have been made by the administration of thyroid or its products and by the removal of the organ, and the noting the effect on the various metabolic activities.

1. *Effect on Nitrogen Elimination.*—All investigators agree on impossibility of an animal being able to main-

tain nitrogen equilibrium, more nitrogen being eliminated than introduced (Vermehren, Richter, Scholtz, Zinn, Magnus Levy, etc.).

2. *On Gaseous Exchange.*—Voit found that in animals brought near nitrogen equilibrium carbon dioxid rose about 20 per cent. on being fed by gland itself. In starved animals the carbon dioxid output averaged about 16 per cent.; carbon dioxid exhalation rose 6 per cent. in animals fed iodothyrin; the oxygen intake rose to 13 per cent., consequently the respiratory quotient was lowered.

METABOLISM (B) IN HYPOTHYROIDISM

Proteid Metabolism.—In these conditions there is a general lessening of all metabolic activities. In thyroidectomized animals, there is a decreased nitrogen elimination (Dulta and La Monaco).

There is, however, a marked elimination of ammonia in the urine following thyroidectomy, causing it to become alkaline in reaction (Cowendo, Luzzato).

Administration of Thyroid or Its Products.—This is soon followed by increased metabolic activities, increased nitrogen elimination, increased gaseous exchange, etc.

METABOLISM (C) IN HYPERTHYROIDISM

In this condition all the metabolic activities are greatly increased.

Proteid Metabolism.—Lustig was the first to call attention to greatly increased nitrogen elimination with great reduction in weight. This was confirmed later.

Influence of Feeding of Thyroid.—Scholtz and Hirschhoff found no change taking place. David observed an increase of 90 per cent. of nitrogen output in one of his cases. Matthes also observed quite a rise in his cases. The authors just cited and several others also found great increase of acid phosphates in the urine.

TRANSPLANTATION

The occurrence of operative myxedema naturally brought up the subject of transplantation.

The first attempt was made by Schiff, who was closely followed by Eiselberg and Kocher, and later by Hoarsly and Bircher.

The gland was transplanted at first into the neck; later mostly into the abdominal cavity with temporary improvement of the patients, the transplanted glands, as a rule, undergoing gradually atrophy or absorption.

Payr, whose careful experiments were commented on by Kocher, selected the spleen as the site of transplantation, and obtained the most excellent and lasting result by transplanting part of a mother's gland into the spleen of her child born with cachexia thyreopriva.

Through the direction of Kocher, Miss Serman has recently done a series of experiments of transplanting gland into the junction of epiphysis and diaphysis of bones, this area being selected from its great vascularity and still resistant structure, which makes it possible to form a pocket for the imported gland.

As a rule, the tibia was selected; a cavity was scooped out, and in it was placed a silver bullet. Three or four days later the wound was reopened and the bullet removed. By this time, healthy granulation tissue had formed on the walls of the artificial pocket. A piece was then resected from the animal's thyroid and placed in the cavity and skin closed.

Later complete thyroidectomy was performed without any disturbance to the animal. When still later a part of bone containing transplanted gland was resected, the animal presented all the symptoms of cachexia strumipriva, and shortly died.

So far as I have been able to ascertain from the literature, the excellent and lasting results of Payr's case has not as yet been duplicated.

INTERNAL SECRETION

Haller, in his remarkable medical work (1730), mentions that Ruysch advanced the supposition that the "blood vessel" glands manufactured some substance that was thrown into the blood current.

It was, however, Bernard's work a hundred years later on the glycogenic function of the liver that led to the adoption of the term "internal secretion."

At first in 1880, when Brown-Séquard, who was aging rapidly, began to experiment on himself with testicular extract, hoping thereby to regain vigor and youthfulness, was any special effort made to solve the problem. Since that time, volumes (the result of exhaustive experimental work) have been written on this subject by such men as Howell, Cyon, Oliver, Schafer, Bredle, Renier, Svehla and others.

Karlson has for several years been doing careful and conscientious work trying to isolate the internal secretion of the thyroid. He has strong reasons to believe that it will be found in the lymph discharged from the gland.

I have seen him inject lymph derived from the thyroid of goiter dogs into normal dogs; he invariably produces tachycardia and intense general tremor in the injected animal.

Blood coming from strumous thyroid injected into a normal animal causes no such manifestations.

In spite of the great amount of work done, no material advance has been made in regard to the nature or even presence of an internal secretion of thyroid.

EXPERIMENTAL HYPERTHYROIDISM

Working on the theory of hyperthyroidism in Basedow's disease, a number of investigators have more or less successfully produced Basedow-like symptoms in man and animals by overflooding the system with thyroid products. Thus Emiguez, Canter and Lang worked on dogs and rabbits, Angiolella and Ludke on guinea-pigs, and Edmond on rats.

The most constant symptom recorded by these and other observers was tachycardia, and, next to that, emaciation. Other manifestations mentioned are dyspnea, diarrhea, nervousness, enlargement of the thyroid, widening of the palpebral fissure, exophthalmos,[1] etc.

In man, palpitation of the heart, nervous and metabolic phenomena have been observed.

By experiments, Furth and Schwartz find that outside of a transient tachycardia and very slight loss of weight, overdosing with thyroid causes no other disturbance.

DETOXICATION

Blum, who advanced this theory, believes that in the course of metabolism there is manufactured in the body a toxic globulin, and that this later is detoxicated in the thyroid by the chemical action of iodin.

Hunt supports this theory in reporting a series of highly interesting experiments, showing that mice fed with thyroid preparations withstood much larger doses of acetonitrite than control animals.

This has been confirmed by Karlson and others.

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[1] Observers are not unanimous as to the occurrence of exophthalmos in the lower animals.

Bevan tells me that in one of the trout-tanks in an eastern fishery most of the fishes became affected with cancer of the thyroid, and that this was accompanied by great protuberance of the eyes. This was undoubtedly exophthalmos, although it was thought to be due to metastasis behind the eye.

It is interesting to note in this connection that fishes in other tanks were unaffected.

RELATION OF THE THYROID TO OTHER DUCTLESS GLANDS

For years it was thought that certain ductless glands worked vicariously with each other. This has been supposed to be especially the case between the thyroid and the hypophysis. In cases of atrophy of the thyroid, it was often found that pituitary body had become greatly hypertrophied in a supposed effort to take up its fellow's action.

Oliver and Schafer, through their work, confirmed by many others, have thrown great doubt on this supposed vicarious function. They found that extracts of the two organs produce entirely contrary physiologic effects.

The relation of the parathyroids to the thyroid is not at all settled, but recent researches seem to indicate that probably these organs have no functional relationship.

HEMATOLOGY

By far most of the work on the blood done in connection with the thyroid has been worked out in Basedow's disease, and according to Kocher the hematologic picture is pathognomonic in this condition.

Through Kocher's instigation, Drs. Wageli, Kurt, Steigen and Kollman have carefully examined and tabulated 106 cases.

These men find that the erythrocytes in a great number of cases, especially in young females, are slightly higher in number than normal; somewhat over 5,000,000 per cu. mm. As a rule, throughout the cases, there was no anemia.

It is, however, in the leucocytes that characteristic deviations from the normal are found.

In a great majority of the cases, there was a distinct leukanemia; the leucocytes averaged about 5,000 per cu. mm., but in one case numbered as low as 3,700.

As a rule, this low count affected the polymorphonuclear leucocytes exclusively, these often falling as low as 35 per cent. The lymphocytes, on the contrary, showed an absolute, though more often relative increase in numbers, and it is this condition, according to Kocher, that constitutes the main characteristic of the blood picture of exophthalmic goiter. This lymphocytosis may reach 57 per cent. instead of the ordinary 25 per cent.

This leukanemia with leucopenia of the polymorphonuclear leucocytes and absolute or relative lymphocytosis is, according to Kocher, characteristic of exophthalmic goiter. The condition is most marked at the height of the disease.

Sometimes after excision of the gland there is a marked change toward the normal. This also takes place after ligation of vessels, but in a less degree.

Sometimes the eosinophiles were greatly increased (15 per cent.), but as this does not occur with any constancy this condition is not specially emphasized.

Marine, who has done more histologic work on the thyroid of animals than any other man, finds, in examination of 202 Cleveland dogs, that 90 per cent. have goiters.

He divides the thyroids into three main groups—normal, hyperplastic and colloid.

The hyperplastic corresponds closely to the typical pathologic picture of primary exophthalmic goiter in man. Marine considers hyperplasia a physiologic reaction to a deficiency, probably of iodin. This hyperplasia takes place in remaining portion of resected normal gland (Halsted).

The colloid goiter, he reasons, is in all probability usually preceded by the hyperplasia, and is really a quiescent stage of the same, or an attempt of reversion toward the normal. He bases this conclusion on the fact that hyperplastic dogs fed with iodin invariably undergo this change toward the normal. The pathologic changes, I found in my Chicago dogs, correspond exactly to the splendid description given by Marine.

I wish in addition to emphasize specially the tremendous size of the lymph vessels in these glands. Very often did I find the upper pole of the thyroid, sometimes the entire gland, and in two instances the surrounding muscles, enveloped in a frothy substance which we found to be lymph. I should like to know whether this has been observed in the human being. The above-described condition seems to indicate that the lymph in this region plays an important rôle and should receive careful investigation. Even in other parts of the body may there be excess of lymph.

A colleague recently operated on a patient with unrecognized Graves' disease and found the entire abdomen filled with lymph. Sponging only seemed to increase the excessive flow. A few hours after the operation all the symptoms of Graves' disease appeared in its most aggravated form.

Kocher, in a recent article, very interestingly discusses the similarity of the anatomic picture, and some of the symptoms of lymphatic leukemia, status lymphaticus, Hodgkins' disease and Graves' disease.

In lymphatic leukemia we have lymphocytosis, enlargement of the spleen, the lymph glands and the thymus, loss in weight and strength and excessive water elimination; so also in Graves' disease; in status lymphaticus, the sudden deaths, danger of anesthesia as in Graves' disease, etc.

This certainly gives food for thought, and will surely open up new channels for investigation.

RELATIVE FREQUENCY OF GOITER IN DOGS

In palpating two hundred dogs, I found eighty-six (43 per cent.) with goiter. At the University of Chicago, where all the goiter dogs are segregated by inspection, one-fourth of all dogs are thus found to be goitrous. Of course, should the thyroids of the dogs I palpated be examined histologically, there would be a much higher percentage.

Marine found 90 per cent. of the Cleveland dogs having goiter, but it seems to me that the standard of normal is then probably put a little too high.

MODERN OPERATIVE METHODS

To Kocher, whose name seems indissolubly associated with the term "goiter," we are indebted for most of the modern surgical technic on the thyroid.

The advance under his leadership has been very rapid, and, though certain that his individual operative work will be equalled by only a few, the great mass of operators have certainly gained enormously by his teachings.

He enumerates the modern methods as follows:

1. Excision (Kocher).
2. Enucleation (Porta Socin).
3. Resection (Mikulicz).
4. Combined methods.
5. Exenteration (Kocher).
6. Ligation of arteries (Wolfer).

In order to avoid the parathyroids C. Mayo by his excellent method leaves the posterior capsule of the gland. This procedure is now followed by most surgeons.

Ferguson, in his recently introduced ingenious method, does the entire work intracapsular. The vessels are tied in the gland substance in such a manner that after resection four buttons of thyroid tissue corresponding to the poles are left *in situ*, thus insuring against cachexia strumipriva.

EXPERIMENTAL PRESSURE ATROPHY

Basing my work on the theory of hyperthyroidism in Graves' disease, it seemed plausible that, if by some means one could produce atrophy of the gland and thus a diminished number of secreting cells, there would be a resulting diminution of secretion and consequent alleviation or cure of the hyperthyreosis. By resection of gland, this is at once accomplished; the operation, however, except in the hands of the very expert, is quite dangerous. Therefore, if by some less radical method, one could obtain the same results, this would, of course, materially lessen the operative danger.

Thus I reasoned that by application of a purse-string around the periphery of the gland, as in Figure 1, with subsequent tightening of the same (Fig. 2), or by introduction of multiple ligatures through gland substance, that this would cause atrophy of gland, not only by the resulting diminished blood supply, but also by direct intraglandular pressure.

One of the chief dangers following operations in Graves' disease is the supposed direct absorption of thyroid secretion from lacerated gland tissue.

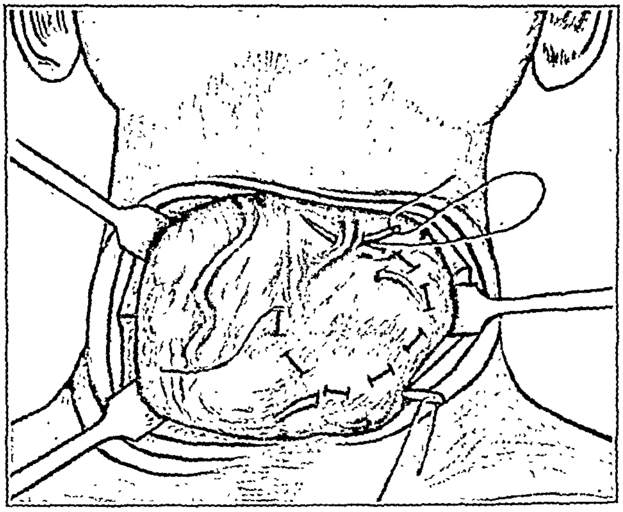

Fig. 1.—Introduction of purse-string suture and tying of inferior thyroid artery through gland substance.

Now, this compression of the organ following tightening of the purse-string would apparently bring about an immediate increased absorption of gland products, but, as one of the main factors of absorption is increased circulation, and in this case the circulation is greatly diminished, I think this danger is almost surely obviated. Working on the above principle, associated with James J. Moorhead, I performed a series of experiments on thirty-five dogs at the physiologic laboratory of the University of Chicago. We operated in groups of three to twenty. The different operations were done as follows:

In the first group (of twenty dogs), tying of the thyroid vessels through gland substance and purse-string compression was done; in the second group, purse-string only; in the third group, purse-string and tying of the superior thyroid; in the fourth group, purse-string and tying of superior vein, and in the fifth group, purse-string and tying of both artery and vein.

OPERATIVE TECHNIC

In dogs I found it preferable to make a vertical median incision. Through this opening, both of the glands may be easily delivered, one at a time. In the one human case, I made the transverse incision and the gland was not moved out of its bed at all. The operation proper consists of the introduction of one or more purse-strings along the periphery of the gland with subsequent tightening of these ligatures. I have used No. 3 chromicized catgut threaded on a curved non-cutting needle.

The preliminary tying of vessels was done, in the majority of cases, through the gland substance, as in Figure 1, taking a suture right through the pole. In the others, the vessels were tied just outside the gland.

In desperate cases, in which only vessels are to be tied, I would suggest that it be done in the manner described above, as the tying of vessels outside of the gland requires quite a handling of the gland, and is said by many experienced operators to be almost as dangerous as a resection.

The purse-string ligature is applied by sewing through the capsule and deep into the parenchyma, carefully avoiding the superficial vessels. Should a vessel be punctured, however, the hemorrhage is very readily checked when the purse-string is tightened.

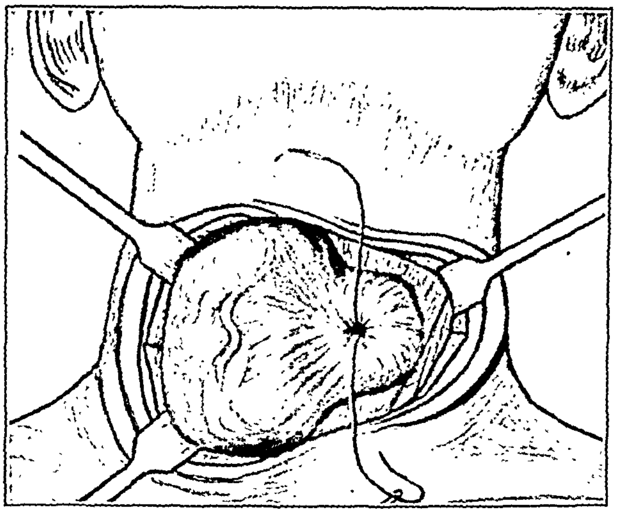

Fig. 2.—Tightened purse-string suture.

The results in all the operations were uniform; the glands sometimes becoming greatly reduced in size and remaining small at least until six months after the operation, that being the longest time we kept dogs for observation. This difference in size of the two glands, those operated on and those not operated on, is shown in Figures 3 and 4; in the latter the glands are shown *in situ*.

In no case did I have gangrene, although I specially tried to produce that condition by excessive tightening of the ligature.

In some of the dogs, there was a more or less marked postoperative lymphatic edema, which gradually disappeared in a few days.

In two dogs, this edema was very excessive, the entire head and neck becoming greatly swollen.

In each case only one gland was operated on; as a rule the larger was selected; the other left for comparison.

The gland on which no operation was done—and this is especially interesting—instead of enlarging, as one would naturally suppose, atrophied in almost all the cases, and in some quite markedly.

In my human case, this reduction in size of the unoperated gland has been most marked and so rapid that two weeks after the operation[3] it can not be definitely palpated, although before the operation it was distinctly seen quite a distance outside of the sternocleidomastoid.

In autopsies on dogs, specimens were taken from both glands and compared.

In most of the cases, there was quite a change; in a few, however, there was no appreciable difference microscopically. In some of the cases the columnar epithelium of the vesicles changed to the cuboidal type and the papillary vesicular ingrowths seemed somewhat decreased in size.

REPORT OF CASE

Patient.—This woman had manifested the ordinary symptoms of Graves' diseases since last September. Before entrance to the hospital her pulse ranged from 120 to 140. The patient had occasional attacks of delirium cordis and her tremor was so intense that she could not at times perform her ordinary housework. After having rested in the hospital for a week the pulse averaged about 100, but came down as low as 90.

Operation.—At the time of the operation the pulse rose to 160, but it was not the rapidity as much as the alarming irregularity that almost made me take the patient off the table without operating. I cut in, however, intending to do a Ferguson operation, but she did so poorly under anesthesia that I changed my mind and rapidly tied the vessels of the right lobe through both poles and followed this by two purse-strings. The gland was not moved out of its bed at all. The time of operation was less than twenty minutes. During operation the patient was stimulated by salt solution administered hypodermically and per rectum and by other measures.

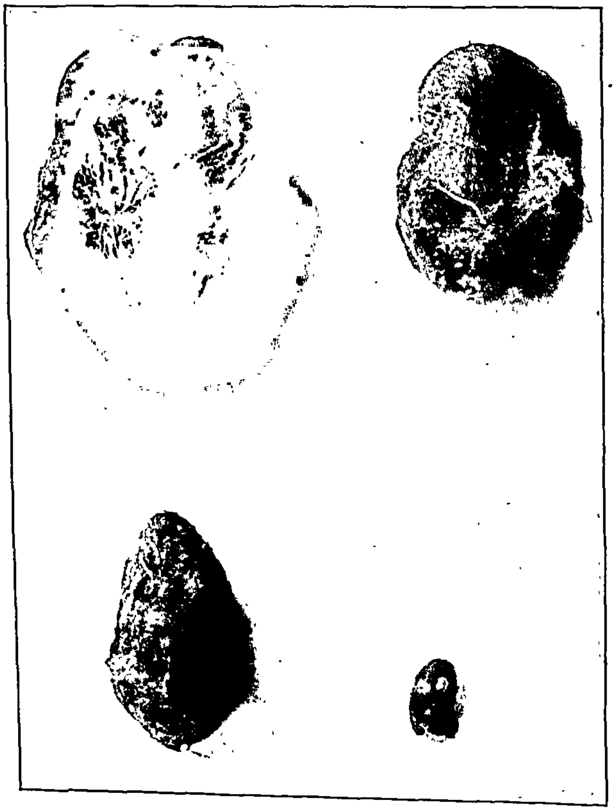

Fig. 3.—Thyroid glands removed from dogs some months after operation, showing difference between glands operated on and those not operated on. The small glands to the right are the ones operated on.

Postoperative History.—The immediate result has been above all expectations. Next day the pulse came down to 90; the maximum rate was 120. On the following day it averaged 110; on the fifth day the pulse at one time came down to 70. From that day the patient was out of bed. Since the fourth there has been no irregularity of the pulse. Two weeks after the operation it ran between 80 and 90, and the patient said she felt generally better than she had done at any time for the last year.

Blood Examination.—In this case the blood findings are very interesting, as, except for a leucocytosis, they correspond closely to Kocher's findings in these cases.

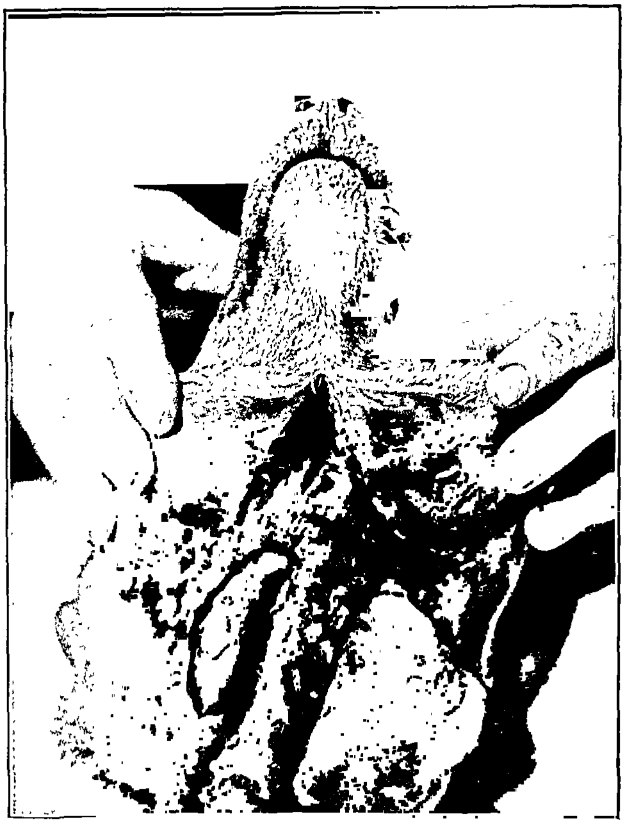

Fig. 4.—Specimen taken six months after operation, showing differences between glands operated on and not operated on.

BEFORE OPERATION

Polymorphonuclear leucocytes	40%
Large mononuclear	10%
Small lymphocytes	45%
Eosinophiles	4%
Myelocytes	1%
	100%

Erythrocytes	4,000,000
Leucocytes	14,000
Hemoglobin	95%
Color index	1 1/6

Some poikilocytes; some macrocytes.

Note the pronounced lymphocytosis (55 per cent.) and the low polymorphonuclear count (40 per cent).

There is also a slight eosinophilia.

AFTER OPERATION

Blood was examined every other day and it was interesting to see a gradual step-like change towards the normal.

Seventh Day—

Polymorphonuclear	63%
Large mononuclear	5%
Small lymphocytes	27%
Eosinophiles	1%
Neutrophiles	1%
Myelocytes	3%
	100%

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[3] The patient was exhibited two weeks after the operation before the Chicago Medical Society.

Erythrocytes	4,200,000
Leucocytes	14,000
Hb	95%

Some malformed erythrocytes.

Fourteenth Day—

Polymorphonuclear	70%
Large mononuclear	5%
Small lymphocytes	20%
Eosinophiles	2%
Neutrophiles	3%
Myelocytes	0%
	100%

Erythrocytes	4,500,000
Leucocytes	9,000
Hb	95%

CONCLUSIONS

A. DRAWN FROM LOOKING OVER THE LITERATURE

1. In spite of the enormous amount of work done on the gland, we are still only in the outer trenches of the thyroid citadel.
2. The whole subject, as it is now presented to us, is a mysterious labyrinth of opposing factors.
3. Thyroid is essential to the well-being of the organism, but not to life.
4. The gland contains iodin.
5. The removal of the gland causes marked metabolic disturbances.
6. Tetany is not due to removal of the thyroid.
7. Iodin seems to have some relation to the physiologic activity of the gland.
8. Iodothyrin may contain the active principle of the gland.
9. There is possibly an internal secretion.
10. The gland may have some action on the cardiovascular system.
11. Thyroid may have a detoxicating function.
12. It may have some relation to other ductless glands.
13. It is seemingly functionally independent of the parathyroid.
14. Graves' disease is probably due to hypersecretion of thyroid.
15. Basedow-like symptoms have been produced by overdosing the system with thyroid products.
16. Transplantation has so far been unsatisfactory.
17. The blood picture in Graves' disease may be pathognomonic and also prognostic.
18. There is probably a distinct pathologic picture in Graves' disease.
19. A great deal of splendid research work is being done in this country.

B. DRAWN FROM MY OWN WORK

1. The thyroid gland of dogs may be caused to atrophy by the method described above.
2. The gland which is not operated on also becomes reduced in size in the majority of cases (probably in all).
3. Goiter lymph in dogs probably has some special importance.
4. Some of the goiter dogs exhibit the pathologic picture of Graves' disease in man, but the symptomatic phenomena of human myxedema.
5. A high percentage of Chicago stray dogs have goiter (43 per cent., probably more).
6. Goiter dogs are very susceptible to anesthesia.
7. The operation may be done in the human being without disturbing the gland in its bed.

So far I make absolutely no claim as to the utility of the operation in the human being, but I can not help but think that, in desperate cases, this quick tying of the vessel with an additional purse-string will pave the way for a more radical operation later, if that should be necessary.

I also take occasion to thank Drs. Moorhead, Karlson, Matthews and Miss Edyth Danielson for valuable assistance.

1144 West Garfield Boulevard.

UNDERDEVELOPED LOWER JAW, WITH LIMITED EXCURSION

REPORT OF TWO CASES WITH OPERATION

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ST. LOUIS

My reasons for reporting the two following cases are, first, that one of them is, as far as I know, unique in its pathology, and the other presented a degree of deformity that is extremely rare; and, second, that the procedures resorted to for their relief have, as far as I know, never before been employed or suggested except by myself.

CASE 1.—*Patient.*—A young woman, referred to me by Dr. C. Dewitt Lukens, who gave the following history: When five years of age she was crushed under a falling bale of hay, was generally injured, remained unconscious for forty-eight hours, but made a good immediate recovery. Between the ages of 11 and 12 years it was noticed that she could not open her mouth freely, and on examination it was found that the excursion of the lower jaw was limited. From that time on it was noticed that the chin became relatively more receding and the downward excursion of the lower jaw lessened.

When she consulted me the patient was 21 years old, delicate and very thin. The mandible was undeveloped and the downward excursion was limited to the extent that the greatest possible vertical opening between the upper and the lower incisor teeth was one-eighth of an inch. Owing to the receding jaw, the lower incisors were one-fourth inch behind the upper, which with the one-eighth opening gave a possible feeding space. I thought that probably the lack of development was related to the early injury, but this did not explain the limited movement, which presented the following peculiarities: The movement was free until the opening between the incisor teeth was one-eighth of an inch and then stopped suddenly. During this movement the right condyle traveled forward as much as it would do in normal full opening of the mouth. The left remained apparently stationary and the chin moved to the left more than it did downward. A poor *x*-ray taken at the time failed to throw light on this point, but I figured out that some obstruction impinging on the dorsal part of the right ramus of the jaw near the angle could cause just that movement by transferring the center of motion on that side from the center of the ramus to the angle. The indications here were to give a free opening of the mouth, to establish a normal occlusion of the teeth and to improve the profile by carrying the chin forward and holding it there. Granting that my idea of the obstruction was correct, all of these things would be accomplished by the operation for receding jaw which I have described elsewhere.[1]

Operation.—At St. Luke's Hospital, on Nov. 8, 1905, under ether an incision of five-eighths of an inch was made in front of the lobe of each ear, the parotid gland turned back, a curved needle passed under the ramus and out through the cheek and a Gigli saw introduced, the soft structures protected and the ramus cut through on both sides. Owing to an abnormality of the ramus on the left side the mucous membrane of the mouth

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[1] Surg., Gynec. and Obst., January, 1907; Dental Era, April, 1907.

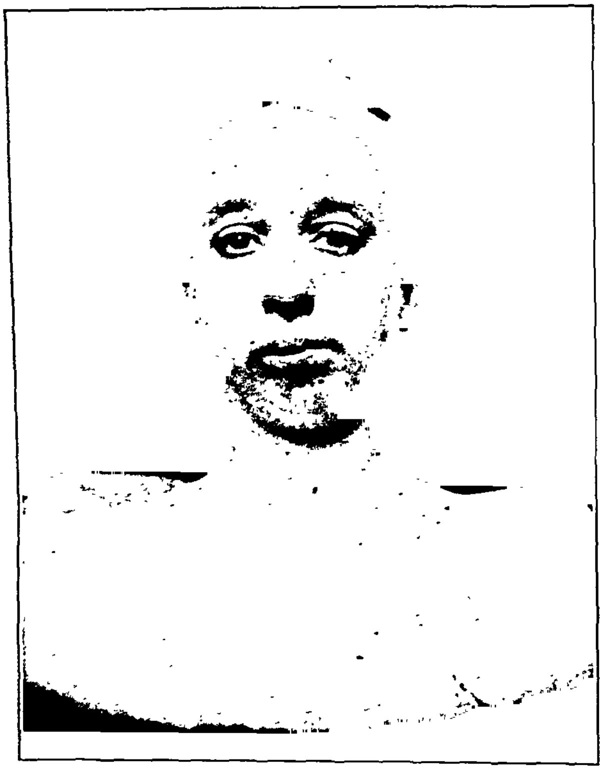

Fig. 1.—Full face of Patient 1 before operation. Notice the lateral position of the chin.

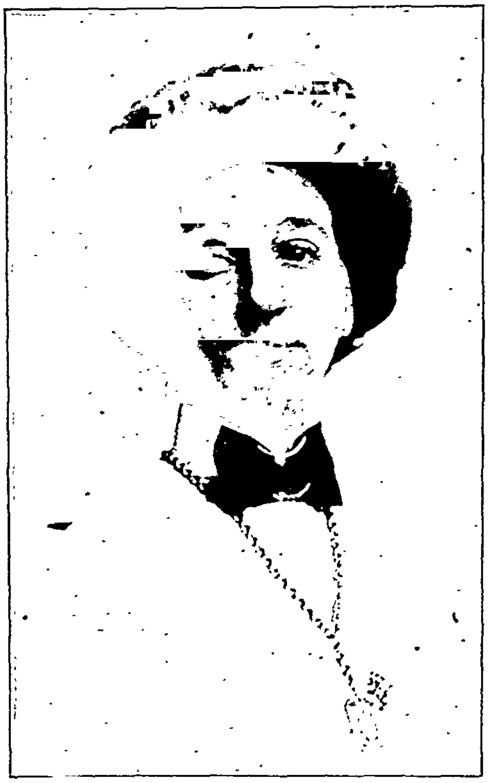

Fig. 3.—Full face of Patient 1 after operation; lateral malposition of chin corrected.

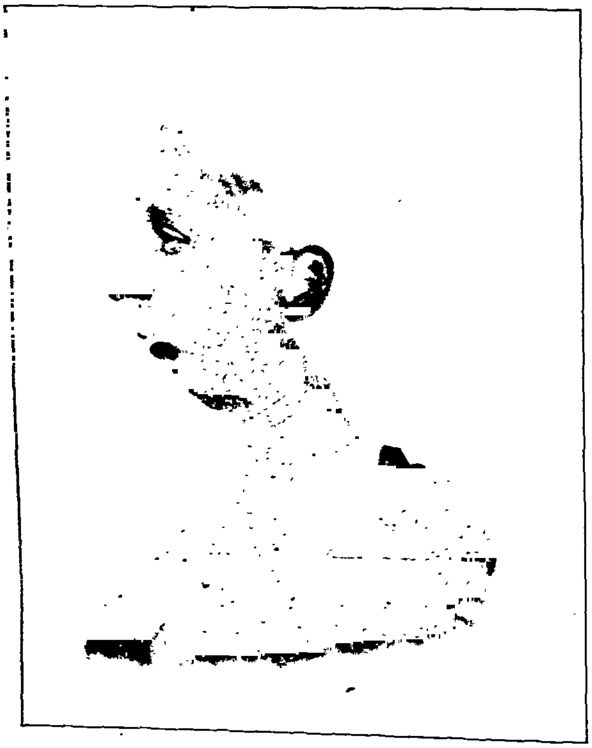

Fig. 2.—Profile of Patient 1 before operation.

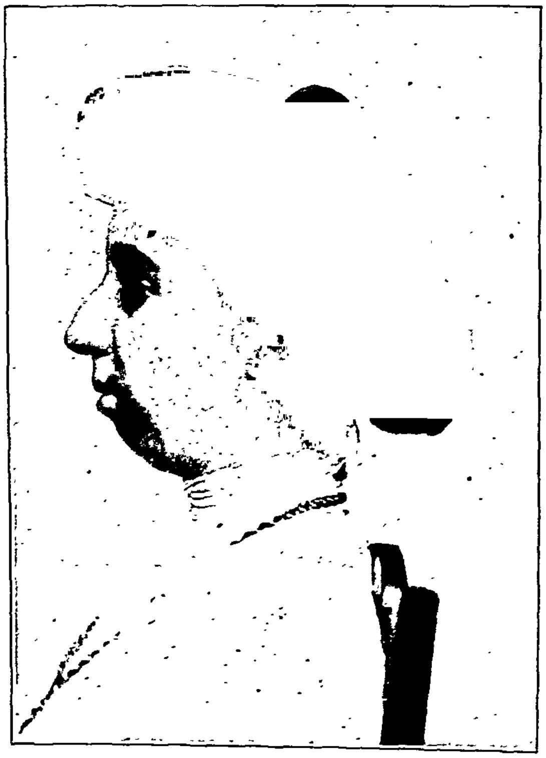

Fig. 4.—Profile of Patient 1 after operation. Notice the change in the relative position of lips resulting from the new position of the body of the lower jaw.

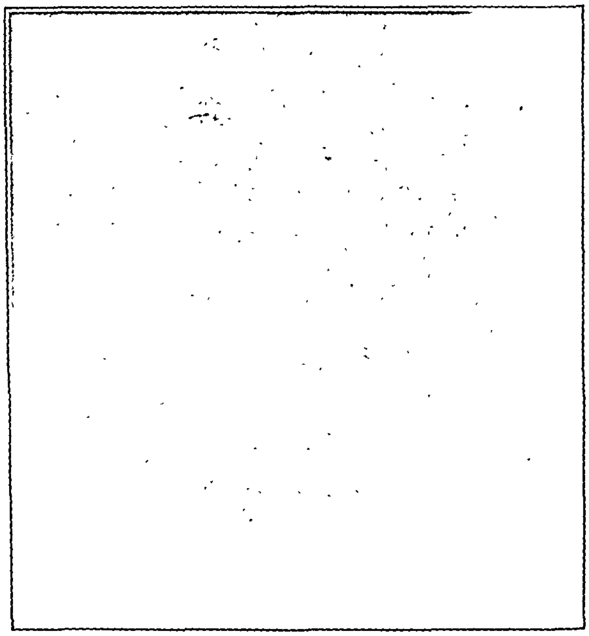

Fig. 5.

Fig. 7.

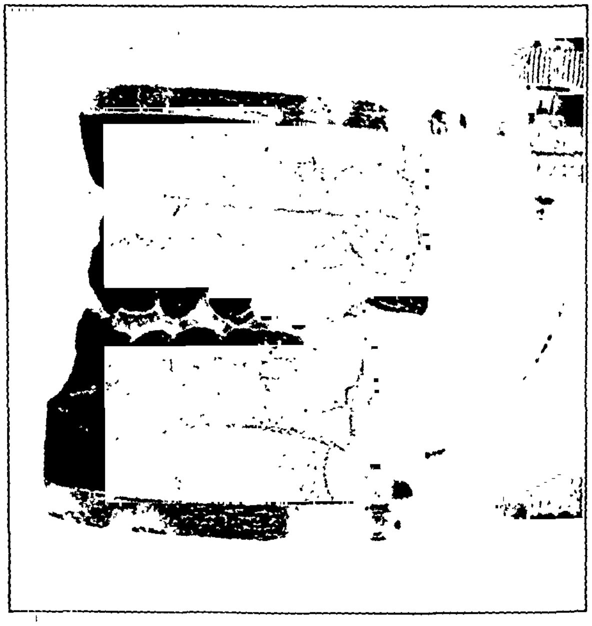

Fig. 6.

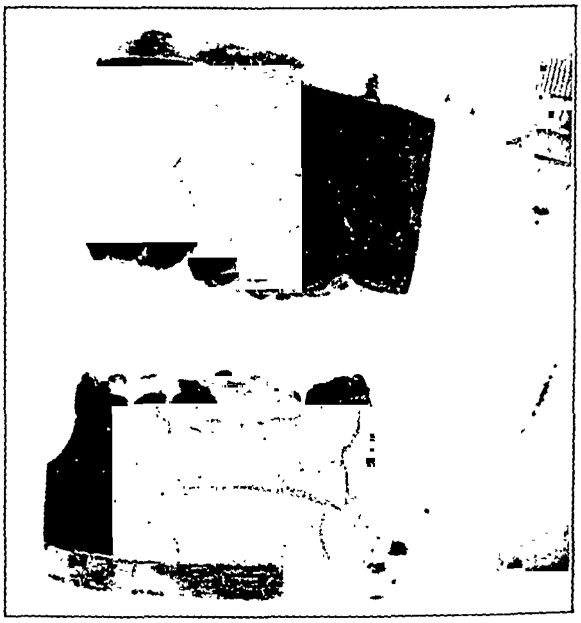

Fig. 8.

Figs. 5, 6, 7, 8.—Closure and possible opening in Case 1 before and after operation. Comparing Figure 5 with 7 it will be appreciated how much the lower jaw has been brought forward. Comparing Figure 6 with 8 the increase in the possible opening can be measured. Before operation the possible opening was one-eighth of an inch; a year after operation it was, as stated, seven-eighths of an inch. Since then there has been a contraction of the bone scars which has reduced the opening to five-eighths of an inch, but it will contract no more. The cast showing the present condition was taken this year by Dr. J. L. Newborn of Memphis, Tenn.

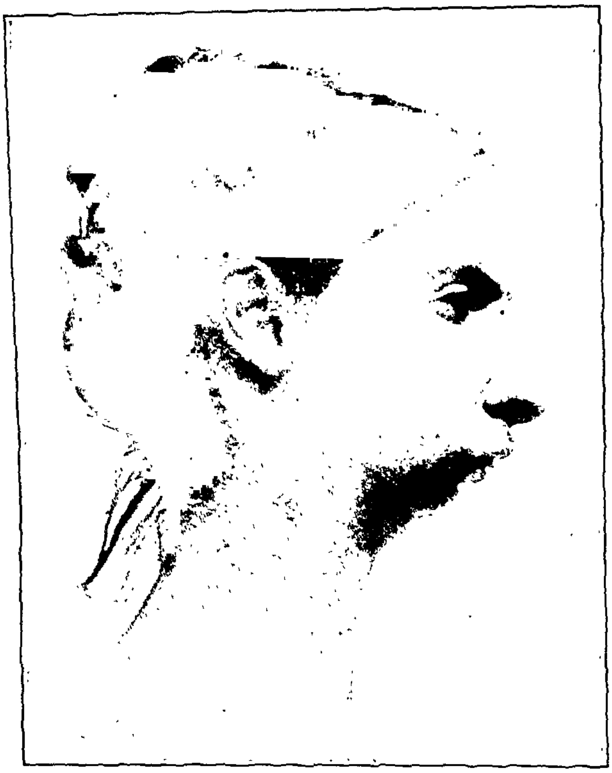

Fig. 9.—Profile of Patient 2 before operation.

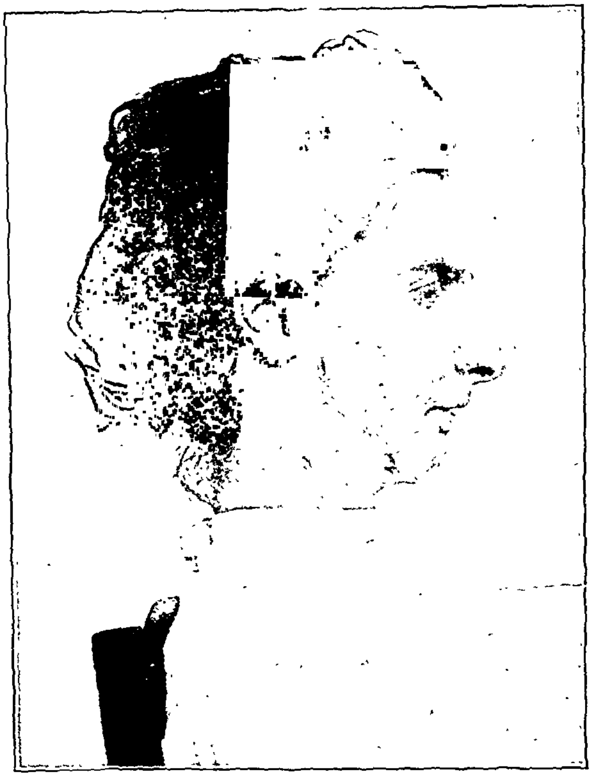

Fig. 11.—Profile of Patient 2 after operation. Owing to their red color at the time of being photographed, the prominence of the scars on the cheek and under the chin is exaggerated by the camera. Later, when the red color fades, the scars will be practically invisible. The change in coiffure in both cases is in conformity with the mode.

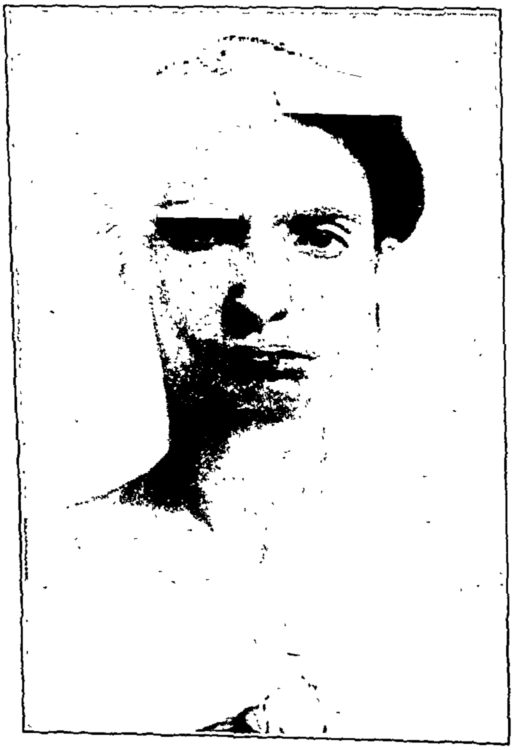

Fig. 10.—Full face of Patient 2 before operation.

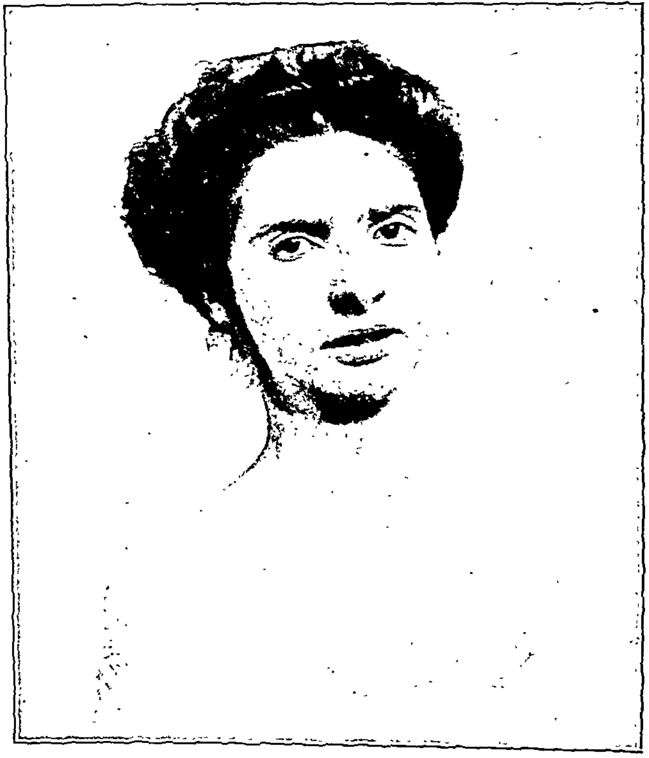

Fig. 12.—Full face of Patient 2 after operation. The happier expression about the eyes is one of the results in this operation.

was pierced by the needle and we had an infected wound on that side which later caused a temporary paralysis of the upper branches of the seventh nerve, but this cleared up in about four weeks. The wounds were packed, the muscles of mastication stretched, the body of jaw brought forward until the lower incisors were a little in front of the uppers and the chin symmetrically placed. It was wired in this position.

Postoperative History.—The packing was removed from the face wounds on the third day. The right one was closed with a suture that had been previously placed and the left dressed open. The paralysis on the left side appeared on the second day, but cleared up as previously stated. The patient left the hospital November 18, ten days after operation. In four weeks the union was examined and found not to be strong, so the teeth were rewired for eight weeks more. Later Dr. Lukens, by orthodontic operations, brought the teeth into more perfect occlusion. In removing the wires from the teeth it was found as expected, but, nevertheless to my relief, that the mouth opened freely one-half inch and that the limit of movement was in the soft structures. When examined a year later it was found that lateral movement was normal and the possible opening between the incisors was seven-eighths of an inch, which is more than is necessary for good function. As mentioned in the articles already referred to, bringing forward the body of an undeveloped mandible does not entirely correct the obliquity of the chin, I proposed, by further operative procedure, to construct a mention eminence, but the patient expressed herself as well satisfied with her results.

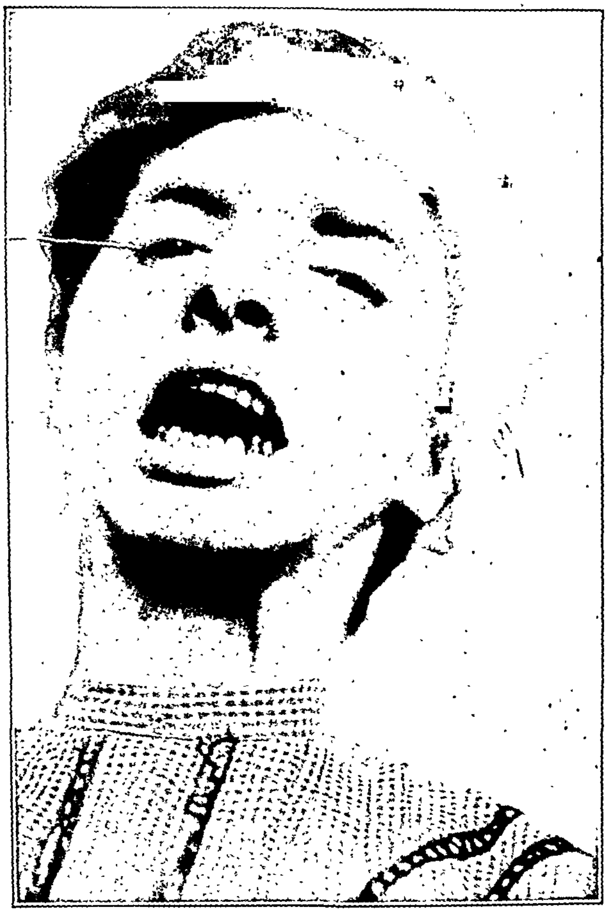

Fig. 13.—Possible opening in Case 2, the artificial dentures, and the crowned bicuspids. The strain of the platysma was the result of the desire to have the mouth open as fully as possible, but it was unnecessary and did not contribute to the result as the mouth opens with perfect freedom till the limit is reached. The artificial incisors are so placed that they do not quite occlude.

The peculiarity of this case was the limit of excursion of the mandible, which was due, as demonstrated later by a good *x*-ray taken after the operation by Dr. H. P. Wells, to the fact that the styloid process on the right side was the size of my little finger and abutted against the inner side of the angle of the jaw, which corresponds with my original deduction. By moving the body forward a space was obtained between the angle and the styloid process which gave room for the angle to travel backward during normal movement. The other results are a symmetrical chin, an improved profile, good health and mental relief. The patient's own brother did not recognize her when she returned home and within a few months she gained twenty-eight pounds over her previous weight which she has retained. She has been in good health ever since, which was not the case before, and she seems very happy. Removal or fracture of the abnormal styloid would give a freer opening, but the patient does not feel the need. She had been seeking relief for some years before I saw her, and, including the members present at medical and dental associations before which, at the request of her dentist, she had appeared seeking advice, she had been seen by a large number of men of both professions.

The photographs of this patient and the next (Figs. 1 to 4 and 9 to 12) are unretouched and show the exact condition of features, but exaggerate the color of recent scars.

Case 2.—*Patient.*—A girl, aged 23, who came to my clinic at the dental department of the Washington University. She had had scarlet fever at the age of 2, with a suppuration behind each ear, probably mastoid. At 6 the opening of the mouth was noticed to be limited and some attempt at stretching with wedges was made. At 9 the opening was very limited and at 15 some lower incisors were removed to allow her to take solid food.

Examination.—In January, 1908, the patient presented herself at the clinic with this condition: She was rather thin, with suppuration of both middle ears, scars from old cervical abscesses, a fair percentage of sugar in the urine. The facial contour was as shown in Figures 9 and 10. There was absolutely no visible excursion of the lower jaw, which was in an extreme degree of underdevelopment. The canines and remaining incisors of the lower jaw protruded straight forward and held the lower lip in the position shown in Figure 9.

The indications here were to improve the general health, including the ear condition, establish a joint on each side, draw the body of the jaw forward and hold it there. On strict diet, under the care of Dr. Walter Baumgarten, the sugar disappeared from the urine. The same operation on the jaw was indicated as in the previous case, but as here we had also to establish a joint on each side, I proposed to the patient to allow me to transplant the interphalangeal joints of one toe to the spaces I would leave between the cut ends of the bone. Permission to do this was refused and I was afterward glad, as every wound but one that I ever made on her suppurated. The operation was done before the class at the Washington University Hospital on Feb. 11, 1908.

Operation.—After sawing the ramus transversely in this case, and bringing the body forward as far as I could hope to retain it, I found that there was such a great separation between the ends that bony union would not be probable. The jaw was held in its new position by wiring the lower to the upper teeth.

Postoperative Treatment.—In this case, with the large space between the cut bone ends, it seemed to me that the greatest difficulty was going to be in retaining the jaw permanently forward. To meet this I determined to keep the bone wired in its new position for a considerable time and later, if necessary, establish the joints. On April 26, on account of evident illness, the mouth was unwired. I found a considerable degree of opening, sufficient to make out a diphtheria of the pharynx. On recovery the patient returned to the clinic and I found the jaw forward in its new position with an excursion that allowed of an opening of the mouth that was three-sixteenths between the bicuspids and limited by soft structures. Attempts at instrumental dilatation with and without anesthetics were unsuccessful and I hit on the plan of inserting pieces of laminaria uterine tent between the teeth and allowing them to remain over night, which was so successful both in the lack of pain and in the result that I consider it a distinct advance over the methods ordinarily used for this purpose.

Result.—We now had the patient's jaw forward and she could open her mouth sufficiently for function, but, owing to the obliquity of the mental portion, the facial outline was still far from what was desired. The correction of this was a problem about which I had been thinking for some years. Three possible methods presented themselves to me: First, paraffin injection into the soft structures, which I dismissed early in the consideration; second, an osteoplastic resection to tilt forward a piece of the chin bone and fill in the space behind with a paraffin iodoform mixture, or silver frame and blood clot; and, third, the transplantation of cartilage. I finally settled on the latter procedure.

Second Operation.—On September 1, at the Washington University Hospital, under ether given through tubes introduced through the nose into the pharynx after the method of Crile, the mouth was packed and a cloth was sewed across the face below the mouth to prevent contamination from the mouth. The curved part of the eighth costal cartilage with its perichondrium was dissected loose and for temporary protection was left in its original position. Then a transverse cut to the bone was made in the crease under the chin and all the structures covering the front of the mental part of the mandible, including the periosteum, were dissected upward in one flap. The curved piece of cartilage one and a half inches long was laid on the bare bone and, after wiring it there, the flap of soft tissue, including periosteum, was replaced, and a very respectable chin resulted.

Postoperative History.—The whole wound suppurated, but I did not remove the sutures, and for days pus in large quantities poured out between them. Later the suppuration became less, and from local symptoms and appearance I came to the conclusion that the infection had occurred between the perichondrium and bone, which was a dead space, but not between perichondrium and the periosteum. Some sinuses persisted which healed nicely after the wires were removed and the sinuses had been injected with a paste of subiodid and subnitrate of bismuth and petrolatum, which is a slight modification of the plan introduced by Beck of Chicago for chronic sinuses. Later the *x*-ray demonstrated the bismuth in the space between the cartilage and bone. I preserved the perichondrium because it is in normal relation on the one hand with the cartilage and on the other with the soft structures: I thought that the leucocytes would be less likely to regard the covered cartilage as a foreign body, and that the nourishment of the cartilage would be preserved. I turned up the periosteum and buried the cartilage under it, because I thought that if I did loose the cartilage it might stay long enough to hold the periosteum in its new position until it had formed a shell of bone. Here I seem to have calculated badly, for the subsequent *x*-rays show no effort at bone formation on the part of the reflected periosteum. To my mind, the most remarkable thing in the whole procedure is that the cartilage did stay in place after suppuration occurred. The scar is linear and hidden well under the chin. The anatomic operative results in this case are the facial outline shown in Figures 11 and 12, a very fair occlusion of the natural teeth that have been preserved, and false joints that permit an up-and-down excursion of the lower jaw, which is limited by soft structures and which is increasing while a lateral movement is developing. A slight amount of the movement on the right side is in the temporomandibular joint, which seems to have been restored by the dilation with tents.

Dental Operations.—Dr. LeGrand Cox, who is associated with me in that clinic and who assisted me all through with this case, removed the upper incisors to allow the lip to retract and the remaining lower incisors and cuspids on account of their extreme malposition. He also crowned the lower bicuspids to bring them up to occlusion. The prosthetic work which shows in Figure 13 was done by Dr. F. A. Niehoff, who has charge of that laboratory, and it and the casts do great credit to his skill and patience. The treatment extended over a year and the patient's circumstances were such that much of the time she was, by the courtesy of the dean, in the hospital at the expense of the dental department. Since the movement of the jaw has been restored and the teeth have been replaced, on ordinary general diet, the sugar in the urine has disappeared. When the patient first presented herself, and all through the first months of treatment whenever she got out of the hospital and on general diet, it ran very high. This disappearance of sugar is possibly one result of the improved digestion, metabolism and spirits which have followed the operation.

Metropolitan Building.

GALVANOCAUTERY PUNCTURE IN ECTROPION AND ENTROPION *

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PHILADELPHIA

Ectropion and entropion, of mild degree, whether from interstitial shrinkage or from moderate cicatricial contracture, are so inefficiently remedied by our present operative measures that I have thought it desirable to present to the profession a simple procedure I have used for many years and from which I have never yet failed to secure the desired results.

There are many conditions which we can relieve by this procedure:

A. Spastic entropion or ectropion.
B. Senile or relaxed ectropion or entropion.
C. Paralytic ectropion.

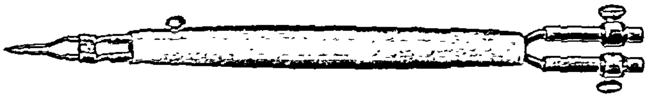

Fig. 1.—Galvanocautery handle and tip for galvanocautery puncture operation in ectropion and entropion (one-third reduction).

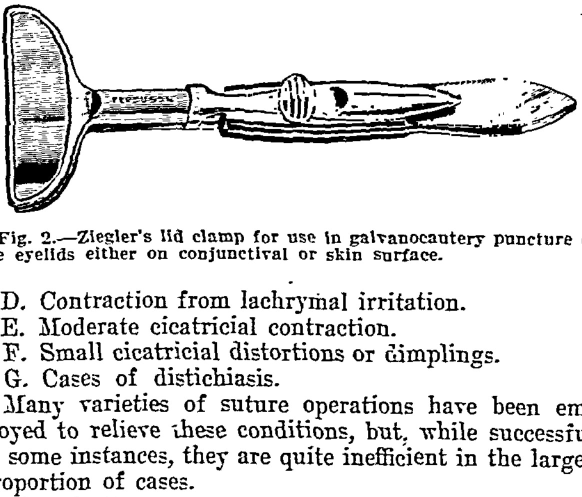

Fig. 2.—Ziegler's lid clamp for use in galvanocautery puncture of the eyelids either on conjunctival or skin surface.

D. Contraction from lachrymal irritation.
E. Moderate cicatricial contraction.
F. Small cicatricial distortions or dimplings.
G. Cases of distichiasis.

Many varieties of suture operations have been employed to relieve these conditions, but, while successful in some instances, they are quite inefficient in the larger proportion of cases.

The plastic operations often leave a scar, which is more disfiguring than the original lesion, and is, therefore, distasteful alike to both patient and surgeon.

The use of flexible collodion has proved of some value in spastic entropion following operations requiring the use of a compress bandage. A few galvanocautery punctures, however, will prove far more efficient in relieving this class of cases.

INSTRUMENTS

The method I desire to propose requires but two instruments, a short galvanocautery point (Fig. 1), and a lid clamp (Fig. 2). The galvanocautery point should be short, rather thick and sharpened at the point so that it will puncture quickly. This avoids scarring. The lid clamp is a modification of my chalazion clamp, having a straight edge, which is a perfect guide for the row of punctures. It is made with a sliding catch, instead of the Desmarres screw, which facilitates placing it in position. The clamp makes a bloodless operation, and, to a certain degree, benumbs the tissues and so lessens the pain. If no clamp is available, the ordinary Snellen lid spatula may be slipped under the lid and the margin of the lid held flat by the fixation forceps or by a double lid hook, in cases of entropion. The same method may be reversed in ectropion, the lid spatula being placed outside on the skin surface, and the margin drawn away from the eye by the forceps or lid hook, which is then turned back flat over the lid spatula.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

ANESTHESIA

I usually employ nothing but a 4 per cent. solution of cocain on the conjunctival surface, the pressure of the clamp causing some anesthesia. The patient may wince a little because of the glow of the cautery, the slight smoke and the momentary noise of sizzling or frying flesh, but ordinarily very little complaint is made.

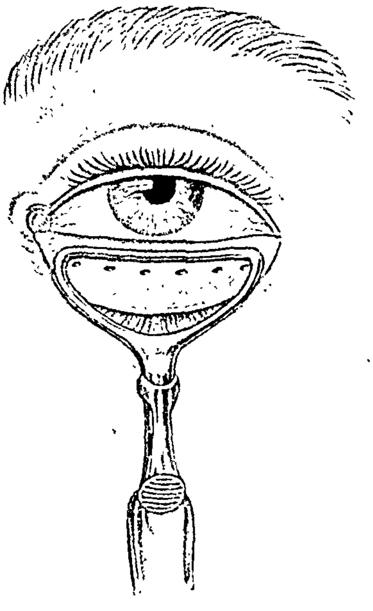
Fig. 3.—Lid clamp adjusted to case of ectropion, showing row of galvanocautery punctures on conjunctival surface.

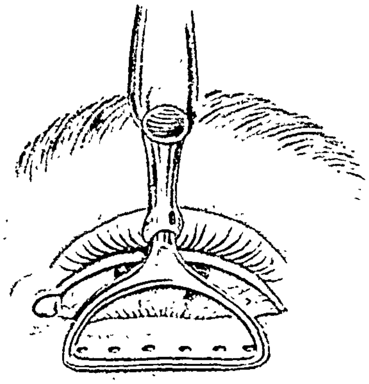
Fig. 4.—Lid clamp adjusted to case of entropion, showing row of galvanocautery punctures on skin surface.

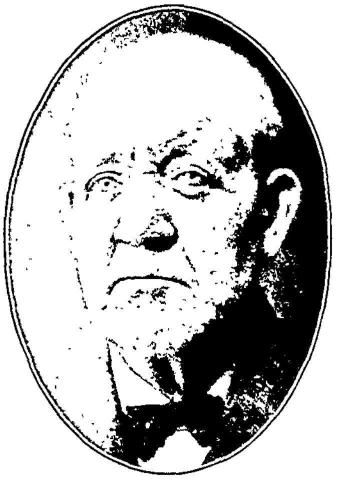
Fig. 5. (Case 3).—Spastic ectropion following cataract extraction.

In nervous, sensitive patients deeper anesthesia is required. Hypodermic injections of cocain under the skin, or conjunctiva will often increase the local anesthesia. In entropion the skin of the lid may be slighty frozen by a spray of ethyl chlorid. In the majority of cases, however, it will be necessary to employ nitrous oxid, bromid of ethyl, chloroform or ether. If ether is used it must be removed before the approach of the hot cautery point or an explosion will naturally occur.

DESCRIPTION OF OPERATION

The lid clamp is adjusted with its straight bar 6 mm. from the lid margin (Figs. 3 and 4). The galvanocautery point is applied to the surface with considerable pressure, the button on the handle is pressed down to turn on the current, while the point is quickly pushed through the cartilage and as quickly withdrawn. The punctures are made 4 mm. from the lid margin, and separated from each other by an equal interval of 4 mm. These should be made on the side on which we wish the contraction to take place, viz., the conjunctival surface in ectropion, and the skin surface in entropion. If necessary, we can repeat the procedure in a few weeks. From one to three sittings will accomplish as much as a plastic operation would do.

This procedure possesses the double advantage of causing vertical contraction of the relaxed lid, and at the same time producing shrinkage and shortening of the redundant length of the lid, thus restoring the lid to its normal position.

POSTOPERATIVE REACTION

I have seldom seen any reaction. If, however, there should be cellulitis and puffing of the lid, the application of continuous ice pads for a day or two will control this condition. I have seen one case (see Case 10) infected by the discharge of a purulent dacryocystitis. I controlled this by wrapping a small wisp of cotton on a wire applicator, dipping it into a 1 per cent. formalin solution, and twirling it around slowly in each puncture. This application was made for three successive days, in addition to the ice padding, when all signs of sloughing disappeared and healing occurred without a scar. Every case, of course, exhibits the charred eschar of the cautery but this causes no disturbance and usually clears off in about a week.

REPETITION OF THE PUNCTURE

If the result is not immediate it may be necessary to repeat the operation two or three times at intervals of from two to four weeks, depending entirely on the amount of incurvation or turning to be overcome. As the procedure is under perfect control, the judgment of the operator can easily determine the number of punctures necessary to attain the desired result. In cases requiring repetition it will be better to make the punctures alternate, locating the second series between the first series.

REPORT OF CASES

I desire to relate briefly a sufficient number of cases properly to illustrate the lesions under consideration and to demonstrate the value of the galvanocautery procedure. The majority of these cases were treated at the Wills Eye Hospital, while a few were seen at the St. Joseph's Hospital or in private. I regret that more photographs of the patients were not taken in order to show more especially the results of the operation.

Case 1. C. S. P., aged 75, suffered from senile or relaxed ectropion of lower lid, O. S., with lachrymal obstruction.

Oct. 9, 1898: Rapid dilatation, O. S.

Dec. 11, 1898: Galvanocautery puncture of conjunctival surface, lower lid, O. S.

Jan. 8, 1899: Galvanocautery puncture, O. S., repeated.

Feb. 1, 1899: Final galvanocautery puncture, O. S., which was followed by prompt and complete recovery.

Case 2. W. T., aged 29, ectropion of lower lid from lachrymal irritation; obstruction of tear duct.

Nov. 1, 1905: Galvanocautery puncture of lower lid, O. D., and rapid dilatation of tear duct.

Dec. 9, 1905: Galvanocautery puncture, O. D., repeated.

Recovery was prompt and complete.

Case 3. J. B., aged 66, developed senile or relaxed ectropion of the lower lid, O. S., after cataract operation. This was spastic in character.

Dec. 9, 1905: Galvanocautery puncture, O. S., followed by rapid recovery which has been permanent. The original condition is well shown in the cut, Figure 5.

Case 4. T. R., aged 42, ectropion of lower lid with lachrymal obstruction, blepharitis and epiphora, O. S.

Jan. 3, 1906: Galvanocautery puncture, O. S., followed by Stilling's operation and insertion of lead style. The recovery was prompt and complete.

Case 5. F. T., aged 46, cicatricial entropion of lower lid, O. S., following burn by acid, which also occluded the tear duct.

Jan. 11, 1906: Stilling's operation with lead style O. S.

Jan. 17, 1906: Galvanocautery, puncture, O. S., which drew the lid out to its normal position, the convalescence being very rapid.

Case 6. W. H. B., aged 48, ectropion of lower lid, O. S., from lachrymal irritation, with occlusion of tear duct.

May 14, 1906: Galvanocautery puncture, O. S.

May 29, 1906: Puncture repeated.

June 25, 1906: Rapid dilatation of the tear duct, O. S. Figure 6 shows the condition before operation, May, 1906, while Figure 7 represents the condition two years later, showing that the result has been complete and permanent.

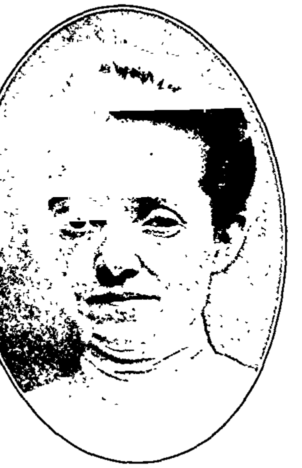

Fig. 8 (Case 13).—Entropion and trichiasis before operation.

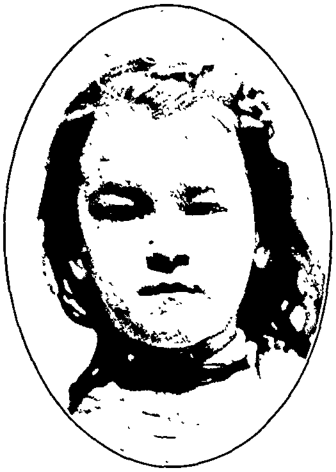

Fig. 9 (Case 14).—Congenital entropion before operation.

Case 7. C. H. A., aged 35, O. D. was injured by molten metal and enucleated. The patient had relaxed ectropion of lower lid, O. D., with shallow socket.

May 27, 1907: Galvanocautery puncture, O. D., conjunctival surface.

Nov. 4, 1907: Galvanocautery puncture repeated, which brought lid into good position for wearing an artificial eye.

Case 8. A. L., aged 33, entropion with trichiasis and lachrymal obstruction.

Nov. 1, 1907: Rapid dilatation, O^2.

Nov. 11, 1907: External canthotomy, O^2.

Nov. 22, 1907: Galvanocautery puncture of skin surface, which relieved the entropion and trichiasis.

Case 9. D. S., aged 75, entropion with trichiasis of both lids, O^2, the sequela of trachoma; lachrymal discharge with pannus, xerosis of conjunctiva.

Nov. 11, 1907: Galvanocautery puncture of skin surface, O^2.

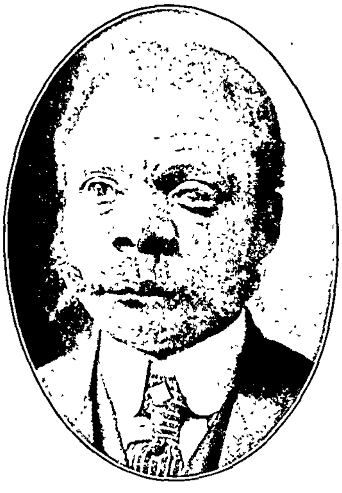

Fig. 6 (Case 6).—Ectropion from lachrymal irritation.

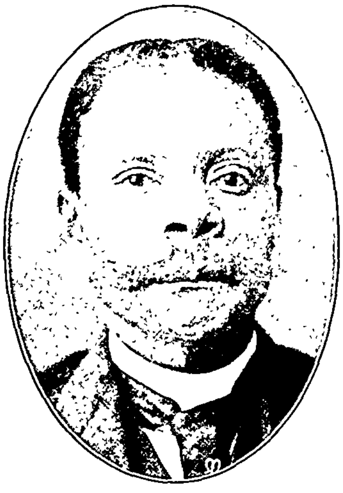

Fig. 7 (Case 6).—The same patient two years after operation.

Dec. 18, 1907: Galvanocautery puncture, O^2, which so completely corrected the entropion and trichiasis that I was able to do a combined cataract extraction in O. S. two months later.

Case 10. T. T., aged 55, had both eyes burned by an explosion thirty years before the time of operation; had entropion, trichiasis, dacryocystitis and pannus in both eyes; also had traumatic pterygium, O^2, with cicatricial bands in O. D., which held the eye in a divergent position.

April 1, 1908: Pterygium excised; Stilling's operation with lead style in both eyes.

April 6, 1908: Galvanocautery of skin surface for entropion of upper lid, O^2.

April 22, 1908: Division of cicatricial bands of upper lid by galvanocautery incision, O. D., which freed the eye from its divergent strabismus.

April 24, 1908: Galvanocautery puncture repeated in both eyes.

May 8, 1908: Galvanocautery puncture repeated, followed by infection from dacryocystitis, which was controlled by applications of 1 per cent. formalin solution, and ice padding. This is the only case of infection I have noted.

The ultimate result of these various procedures was excellent, and the patient was discharged greatly improved in appearance, with better vision and greater comfort than he had enjoyed for many years.

Case 11. S. M., aged 67, has marked senile ectropion of lower lid with blepharospasm, O. D., dating back one year.

April 24, 1908: Galvanocautery puncture, O. D., conjunctival surface.

May 1, 1908: Galvanocautery puncture, O. D., repeated.

May 13, 1908: Galvanocautery puncture, O. D., the final result being a restoration of the lid to its normal position with relief of the blepharospasm.

Case 12. W. W. G., aged 49, spastic entropion of lower lid, O. S., with lachrymal obstruction and ulcerative keratitis.

May 28, 1908: Galvanocautery puncture of lower lid, O. S., with rapid dilatation of the tear duct. The convalescence was prompt and complete.

Case 13. Miss E. G., aged 34, suffering from entropion and trichiasis of upper lid, O. S., for many years.

June 10, 1908: Galvanocautery puncture for entropion of upper lid, O. S.

June 24, 1908: Operation repeated.

Figure 8 shows the condition prior to operation. The result was excellent but, unfortunately, the patient was discharged from the hospital without securing a photograph showing the final condition.

Case 14. Miss R. G., aged 9, congenital entropion of both lids of each eye, with complete inversion of eyelashes; lachrymal obstruction.

Feb. 17, 1908: Rapid dilatation of both tear ducts.

May 25, 1908: Galvanocautery puncture of both lids, O^2.

June 29, 1908: Operation repeated on both eyes. Marked improvement.

July 8, 1908: Final puncture, which was followed by complete relief. Examination of the patient on March 8, 1909, showed that the result was permanent.

Figure 9 represents the condition before operation.

1625 Walnut Street.

ABSTRACT OF DISCUSSION

Dr. S. D. Risley, Philadelphia: Any surgeon who has experienced the difficulties and uncertain results following the adoption of any of the usual surgical procedures for the correction of ectropion or entropion will, I am sure, appreciate the simple method set forth in Dr. Ziegler's paper. The author has courteously afforded me the opportunity to see some of his cases. The admirable results led me to adopt the procedure in a man aged 68, who for a long time had suffered from entropion of both lower eyelids. A 4 per cent. solution of cocain was instilled, the entropion was temporarily corrected by rolling the lashes outward through traction on the skin of the lid and a broad metal spatula was introduced into the conjunctival cul-de-sac. Pressing this forward drew the lid tight and held it firmly. Four galvanocautery punctures were then made as described by Dr. Ziegler. A week later the second eye was operated on in the same manner. The entropion in each eye was immediately and permanently corrected. In each a coating of collodion was spread over the punctures and the man was allowed to return to his home. There was no noticeable reaction and no scar. The immediate and perfect correction of the trouble were not only entirely satisfactory to both patient and surgeon, but afforded a rarely striking and brilliant result from a procedure of great simplicity. The principle involved is the shortening of the lid along the lower border of the cartilage on the outer or skin side in entropion and on the conjunctival side in ectropion. The placing of the punctures in relation to the edge of the lid is therefore important.

Dr. William Zentmayer, Philadelphia: When a new operation such as this is proposed we should have accumulative evidence of its effects as soon as possible; therefore, I wish to report six cases of the Ziegler operation, all done for entropion, four of the spastic type and two with trichiasis. The immediate effect was most gratifying. In two instances, one of the spastic type, it was necessary to repeat the operation and not sufficient time has elapsed since to warrant a statement as to whether the result is now permanent. But as Dr. Ziegler has said, repetition of the operation is to be expected. I have always injected cocain into the lid before the operation and have had little complaint of pain. I do not know whether it is wise or not, but I have not even put a bandage on the eye. This is certainly an admirable procedure, in suitable cases.

Dr. Barton Pitts, St. Joseph, Mo.: In discussing the subject of entropion particularly, we must bear in mind that there are different conditions that bring about the inturning of the upper and lower lids, especially the lower. Twenty years ago, in my experimental stage of evolution, I tried the cautery method quite extensively. In my part of the country we have 50 per cent. more cases of entropion than in the East. Trachoma is exceedingly prevalent, the population being made up of a considerable foreign element. I have obtained satisfaction from the cautery in only a very small class of cases, of spasmodic or senile entropion of the lower lid. In these cases one can cauterize; take out a small strip of skin or paint with collodion and obtain a satisfactory result. Usually external canthotomy will afford permanent relief. There is no cauterization that will relieve entropion of the upper lid due to cicatricial contraction from trachoma, which constitutes 99 per cent. of such cases. In ectropion the operation of removing a V-shaped piece with the apex down at the external angle of the eye, and suturing it with one or two sutures has always proved effectual with me, except in cases with scar tissue due to injury or burns. Each of these cases must stand by itself. The operation for entropion most satisfactory to me is the Hotz operation combined with mucous transplantation from the lower lip.

Dr. S. Lewis Ziegler, Philadelphia: This particular instrument that I am showing was made for me by Luer, in Paris, but I am advised that the Keystone Electric Company, of Philadelphia, now has them ready. The cautery point I use is made very sharp on the end and then spreads out suddenly with quite a belly. One can, therefore, secure a good cautery effect and make the puncture very quickly thus getting heat without destruction of tissue. It should be borne in mind that you must not hold the hot cautery in the tissue too long, or there will be sloughing, as after any other cauterization. The other question, raised by Dr. Pitt I believe, was in relation to entropion after trachoma. Case 13, Figure 8, in my paper, shows a very marked case of entropion from trachoma of fifteen years' standing, that was relieved by this procedure. Unfortunately, no photograph of this patient was taken afterward. This operation is not supposed to take the place of all plastic operations on the lids, but is useful in eversions and inversions of moderate degree in which we do not care to do a plastic operation. It is also valuable in repairing or trimming up other plastic operations; in other words, if there is left some dimpling or distortion we can contract the lid on the inner or outer side, according to where the puncture is made. I do not think there is anything that I can add to the technic. It is very simple, and anyone who can use the galvanocautery can do it. So far as the after-treatment is concerned, I think any mild dressing will give the result. If one is afraid of puffing of the lid, ice pads may be put on for twenty-four hours. One can apply a bandage or leave the eye open. I seldom use any dressing, as the galvanocautery puncture should give no more reaction than the same puncture applied to a wart on the hand. I have illustrated the operation for convenience on the lower lid, but it works as well on either lid. The degree of anesthesia depends entirely on the individual patient and should be controlled by the circumstances.

TENOTOMY OR ADVANCEMENT *

LUCIEN HOWE, M.D.
BUFFALO, N. Y.

When Dieffenbach and his contemporaries began to operate for heterotropia they always divided the tendon of the muscle, or even the muscle itself toward which the eye turned. Naturally many of these eyes soon turned quite as far out of place in the opposite direction. Then operations for advancement were attempted, although at first only in a crude form. During the three-quarters of a century since that time ophthalmologists have differed in their opinions as to when to make tenotomy and when advancement. We have the important fact that thousands of eyes have been satisfactorily straightened by tenotomy, and, on the other hand, we know the unsatisfactory results of this operation which come to even the best operators, and the theoretical reason for advancement—that it is always better to strengthen one muscle than to weaken its opponent. An examination of the literature seems to indicate that when some attractive form of tenotomy has been proposed, ophthalmologic opinion swung toward

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

that operation, or when another for advancement offered it swung toward that. Of late the tendency—in America, at least—seems to be in favor of advancement, in spite of the fact that this is by far the more difficult operation for the surgeon to make and the more uncomfortable for the patient to endure.

My object here is to recapitulate briefly the reasons for deciding in a given case on a tenotomy or an advancement. As exact definition is necessary to clear thinking, it should be stated that each of these terms is used here in its broadest sense. It is taken for granted that the tenotomy made in a given case is always the form of that operation then indicated, whether that be a partial, a simple, or a complete tenotomy; also that the proper form of advancement is always selected, whether that be advancement of the tendon alone or of the tendon with its capsule, it being far beyond the province of this paper to discuss at all the technic of either operation.

It should be noted also in what follows that the term "strabismus" is avoided, because that is so indefinite as to mean all forms of heterotropia and therefore no one form exactly.

Moreover, even the question of diagnosis here dealt with is presented with some hesitation, as a short chapter on this subject has been given recently in my second volume[1] on the muscles, and there is danger of repetition. But, according to the plan adopted in that book, it was not practicable to arrange the facts in the order which is possible here.

We shall probably all agree at once on the fundamental proposition that the operation selected should be the one which restores most completely the normal condition. Thus if the deviation of an eye is produced by the excessive action of a certain muscle or group of muscles, we are safe in lessening that excessive action by some form of tenotomy. On the other hand, if the deviation is produced by the insufficient action of a certain muscle or group of muscles, advancement is indicated. In other words, the decision in a given case between a tenotomy or an advancement depends on the question whether the deviation is due to an excessive action of the muscle or group of muscles toward which the eye turns, or to the insufficient action of the muscles or group of muscles away from which it turns.

For the sake of clearness we should remember that our cases of heterotropia really divide themselves into three great classes, each class having apparently several subdivisions—more or less well defined. We have long recognized the more obvious examples of each great class and treated them accordingly. Taking them in the order in which we began to separate them from each other, we recall the cases most easily recognized as those of paralysis or paresis or insufficient action (as we wish to call it) of one muscle or group of muscles. Sometimes the paralysis is apparent at a glance; sometimes it is necessary to have the patient look to the right, left, up or down, to assure ourselves that any paresis exists; while in still other patients that diagnosis can be made only after long and patient search. These we may well call cases of actual insufficient muscular action, and for them we agree that advancement would be indicated.

We should remember, however, that an abnormal condition of the opposite kind may also be observed; a spasm or excessive action (as we wish to call it) of one muscle or group of muscles. If the limits of this paper permitted, the diagnosis, frequency, etc., of these cases would be dwelt on, but I have recently tried to give a summary of our knowledge on that subject. It is only necessary here to observe that the largest and most typical group of this class comprise those to which Donders long ago called attention. The hypermetropes whose ciliary muscles were constantly in a state of excessive action, and with that came excessive action of the internal recti. These we may call cases of actual excessive muscular action, and for them most of us also agree that tenotomy would be indicated. Without doubt there are other groups of this class with excessive muscle action which still remain to be separated from the rest and carefully studied. This seems probable, at least in view of the thousands of good results blundered into after so-called tenotomies made in the most careless manner possible.

Between these two classes of deviations due only, on the one hand, to excessive, and, on the other, to insufficient action of a muscle or group of muscles, we have a third class, in which these two conditions exist in the same eye. Thus an esotropia very often results from excessive action of the internus, together with insufficient action of the externus. This is the rule in cases of long standing. My main point is simply this: In order to decide in a given case whether to make tenotomy or advancement we must know first of all the one group of muscles or because of the excessive action of another group, or because of both causes acting at once? If the last, which cause predominates? Minor questions are also involved in this decision, but they may be neglected for the present.

Moreover, for the present let us limit ourselves to deviations of the visual axes which occur in the horizontal plane; that is, to esotropia and exotropia. They will illustrate the principles involved. To be still more definite, let us imagine for a moment that we are dealing with a case of esotropia in a young person. In deciding a question like this it is necessary to obtain all of the evidence possible from different sources. These sources are:

A. The refraction, with the condition of the ciliary muscles.

B. The extent of the arc of rotation and the behavior of the eye, in rotating, as shown by the perimeter or tropometer or both.

C. The exact character of the arc of rotation as shown by photographic tracings.

D. The lifting power of the adductors and abductors as shown by the ophthalmodynamometer.

Let us consider these in order.

A. THE REFRACTION AND THE CONDITION OF THE CILIARY MUSCLES

The part which hypermetropia plays in esotropia has already been referred to and is too well known to require any elaboration here. It is the deviation inward which Galezowski and others have called functional strabismus. This is a good example of the cases in which the deviation inward is due to excessive action of the adductors. The treatment with convex glasses shows that we recognize this. When that is not sufficient, especially when one eye is amblyopic, then most operators are accustomed to make some form of tenotomy of the internus. Good results have followed in so many thousands of such cases that probably tenotomies will always be made for them, in spite of any theories in favor of advancement.

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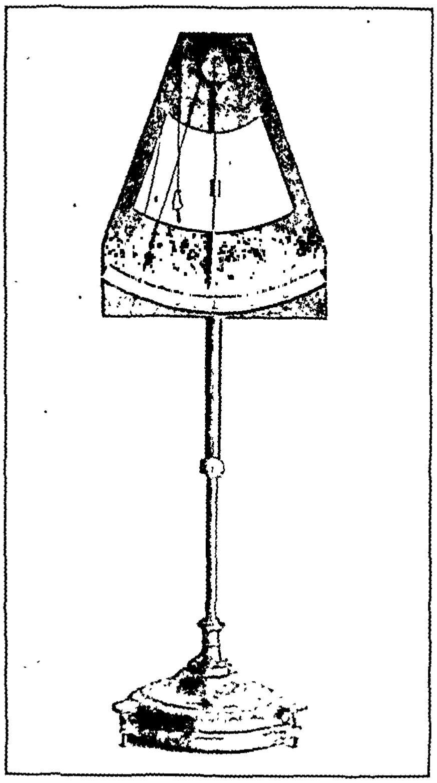
[1] Howe: The Muscles of the Eye, New York, 1908, ii, 358.

In a word, the condition of the refraction not only gives us a clue as to the diagnosis but also to the treatment.

B. EXTENT OF ARC OF ROTATION AND BEHAVIOR OF EYE IN ROTATING

Important evidence is furnished by the extent of the arc of rotation in and out, and by the behavior of the eye in moving through that arc. The limits of this paper will not permit a description of the form of perimeter or tropometer best suited for making these measurements. They have been described at length in the first volume on the muscles in the work already referred to. A more complete description of their varieties, and the advantages of different forms, are to be given in a paper now in press, which will be presented at the meeting of the American Ophthalmological Society to be held in July and published in their transactions. At present it must be taken for granted that these forms of the perimeter and tropometer are well known.



Ophthalmic dynamometer for measuring the lifting power of the horizontal recti

It should be mentioned, however, that while the perimeter is very useful for measuring the extent of the arc of rotation outward, it is of no value in measuring that arc up or down, because of the obstruction to the axis of vision caused by the projection of the nose, brow or cheek. For the measurements of the arc of rotation in these three directions we must depend on some form of the tropometer. The form which I have described, that is, a tangent scale in the tube of the horizontal microscope, seems to serve the purpose as well as the more complicated instruments.

It should also be observed that the extent of the arc of rotation is by no means the only measure of the amount which the eye can turn in a given direction. I have already called attention to the fact, and must repeat again, that quite as much depends on the character of the rotation as on its extent. To say that an eye rotates outward, for example, 50 or 55 degrees, means but little. We must also know whether that rotation is a steady and uninterrupted swing, to a point at which the eye remains fixed as long as the individual desires, or whether, on the other hand, the eye swings out steadily only to 25 or 30 degrees, then begins to halt or vacillate, as it were, and, after reaching even the same point of rotation, to swing quickly back, in spite of the effort of the individual to hold it in that nature of the deviation. We must ask, does that eye turn out of place because of the insufficient action of position. In making any of those measurements with either the perimeter or tropometer we must, therefore, have a suitable instrument, and the observer must also have a familiarity with the instrument before he is able to obtain constant results. Apparently it is almost as difficult to measure accurately the arc of rotation and to estimate properly the character of the rotation of an eye as it is to learn the manipulation of an ophthalmoscope.

C. EXACT CHARACTER OF ARC OF ROTATION

More exact testimony as to the extent and character of the arc of rotation and its rapidity is shown by photographic tracings of the reflex from the moving cornea, or what have been described as photograms. These are considered next in order only because the testimony furnished by them is similar to that given by the perimeter and the tropometer. They all deal with the arc of rotation. As the photographic plate shows to the astronomer the existence of stars which no eye has ever seen with the largest telescope, so does the plate also record the extent of the arc of rotation of an eye and the variations in its movements more exactly than can be seen by the eye of any observer when using a perimeter or tropometer.

The limits of this paper again make it impossible to elaborate this point, but I have already published the method for making these photograms both by daylight and, still better, by artificial light. They are referred to here, as already stated, because this is a more exact method of measuring the arc of rotation.

It should be understood, of course, that it is not a method of any value for every-day office work. The clinician ordinarily has too much to do otherwise to take time for such details. It should be observed, however, that the fact that he is busy has nothing to do with the question at issue. We are now considering careful, honest work. While it is true that such measurements can never become general, it is true also that they do assist somewhat in deciding in a given case whether to make a tenotomy or an advancement. For this reason, if for no other, it is probable that this method of diagnosis in some form will ultimately come into use, at least in large institutions, just as we resort there to the use of the *x*-ray or the giant magnet.

D. THE LIFTING POWER OF THE ADDUCTORS AND ABDUCTORS

Finally some light is thrown on the character of a given deviation by the lifting power of the adductors and abductors. Here again a long digression would be necessary to describe the method of making these measurements. The earlier arrangements for that purpose were outlined in the first volume of the work on the muscles already referred to.

Since that was published a decided improvement has been made in the technic. That was described in a paper I presented at the International Congress in Naples in April. It may be stated in explanation that after cocain has been applied, a speculum is introduced, and the rectus muscle which is under examination (the internal, for example) is caught between the teeth of fixation forceps made very light, strong and only two or three centimeters long. A thread extends from the forceps to the upper arm of what is practically a vertical lever. When the person under examination is told to contract the internal rectus muscle by looking in, he draws on the forceps. This makes a pull on the thread and that, drawing on one end of the lever, causes the other end to pass over a graduated scale. If this lever and scale are properly constructed a given amount of motion of the eye indicates that the internal rectus with the other adductors lifts a given number of grams or fractions of a gram. (An illustration of this instrument is here given.)

It is not contended that the data furnished by this appliance are in every way reliable. On the contrary, much still remains to be learned concerning the lifting power of the horizontal recti and the methods of measuring it. But apparently such measurements do furnish at least corroborative evidence of considerable value.

Testimony on this point might also be obtained from one or two other sources, possibly such, for example, as the sound made by the ocular muscles in their contraction, as has been described by Professor Hering, of Leipsic. But these data are apparently of such doubtful value or so very impracticable as to be hardly worthy of mention.

In reviewing, therefore, the different means by which we may learn whether the deviation of an eye in a given case is caused by excessive action of one set of muscles or by insufficient action of another set, it is probable that we must lay most stress on the condition of the refraction, next on the evidence furnished by the perimeter with the tropometer, then the amount of the lifting power, and finally the extent and character of the arc of rotation as shown by the photographic tracings.

But it must be observed that in spite of the most careful tests, frequently repeated, it is practically impossible, in a considerable number of cases, to determine whether an eye deviates in a certain direction because of excessive action of one group of muscles or by insufficient action of the opposing group. It is very certain, however, that the more we study these cases the more do we find to learn concerning them and the more accurate and clear-cut do our ideas become in a given case. It is also certain that there is no inflexible rule for always making tenotomy or for always making advancement. Practice according to such an inflexible rule is hardly less than malpractice. The all-important question is how to select these cases properly; and that can only be done by an expenditure of time and patience. It is to offer some slight suggestions as to how this problem can be solved that I venture to present these few points concerning the decision in a given case.

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ABSTRACT OF DISCUSSION

Dr. Frank C. Todd, Minneapolis: This paper deals with heterotropia and not with heterophoria. The question implied in the title to this paper is one which all will often find difficulty in answering. There are some cases in which it can be definitely answered, while there are others in which at present we can not positively determine the best procedure. As a guide, we have been given some rules which theoretically sound good, but practically do not always work out well. Therefore all study along these lines is of great value, and Dr. Howe has given us valuable contributions, which are helping to solve this and other muscle problems.

I can agree with him that there is no inflexible rule for always making a tenotomy or for always making advancement. There are cases in which one or the other or both operations should be practiced. As a rule, we should tenotomize a too strong or advance a too weak muscle. What we wish to secure, however, is a correction of the defect with binocular single vision if possible and normal rotations, and it sometimes happens after tenotomizing a muscle, which had not shown excessive strength, that is, in which apparently the defect was caused by under action of its opponent, that after operation the opponent develops extra power, while the tenotomized muscle loses none of its former power, successful results being thereby secured and in a case in which according to the rule of strengthening the weak muscle advancement was indicated. This probably occurs because of the constant exercise stimulated by the effort to maintain single binocular vision, but whatever its cause the instructive fact is that it occurs. Generally speaking, the effect of a successful advancement operation is more apt to be lasting than the effect of a tenotomy. Surgically, we may explain this fact on the basis that a tenotomy may result in cicatricial contraction, which may overcome the benefit at first secured, while if such cicatricial contraction takes place following a successful advancement, the effect is thereby increased instead of decreased. Therefore, we may feel more secure as to the ultimate results in an individual case when advancement has been done than following tenotomy. There are so many things to consider in determining the answer to this question that it behooves those who are doing this work to make an elaborate study of each case and also to follow the cases up after operation that valuable deduction may be drawn. Indeed, I believe we may draw more valuable conclusions from the results as shown by the muscle measurements after than before operation, and still more valuable by comparing the measurements made before and after operating.

In those cases in which the vision in each eye is so nearly equal that we may hope to produce single binocular vision, it would seem that the rule suggested in Dr. Howe's paper of tenotomizing a too strong muscle and shortening a too weak muscle, should be followed. In those cases, however, in which incurable and marked amblyopia exists in one eye, and in which, therefore, single binocular vision can not be secured, we have to consider only the cosmetic result. In these cases, whether or not indicated by the above-mentioned rule, I would prefer to confine my operating to the amblyopic eye, and in such cases it will usually be found necessary to combine advancement with limited tenotomy, we thereby avoid disturbing in any way the muscle attachments of the better-seeing eye.

Despite these rules, there are cases in which operators everywhere will be controlled by other considerations than the weakness or strength of the muscles as shown by our present means of measurement, especially in those cases in which measurements do not strongly indicate advancement or tenotomy; for instance, the general condition and temperament of the patient which makes it impossible or very difficult to do an advancement operation under local anesthesia, in which for some reason it may be desirable not to use general anesthesia.

I desire to emphasize Dr. Howe's plea for a careful study of these cases, but not alone previous to operation, for I believe a similar study of muscle conditions after operation will prove still more instructive.

Dr. E. E. Holt, Portland, Maine: All will agree with Dr. Howe on the necessity of careful examinations of each individual case of heterotropia in order to determine how best to correct it, whether we carry out all the details he suggests or not. In some cases, as he says, it is impossible to decide exactly what group of muscles is at fault, and therefore it is difficult to determine, beforehand, just what operation will best accomplish the desired result. It is just thirty-one years ago since I began to practice advancement of a muscle, or Tenon's capsule, for the correction of heterotropia. In 1885 I had performed the operation of advancement twenty-five times, and presented a paper embodying my experience with these cases to the American Ophthalmological Society at its twenty-first annual meeting. So far as I am aware, this was the first series of cases of advancement of a muscle or Tenon's capsule for the correction of heterotropia in this country, and I remember distinctly how unfavorably my paper was received by the society.

Dr. Knapp, in discussing it, said: "I only want to point out the dangers of advancement and would like to take issue with Dr. Holt in the group of cases of excessive convergence. I have mostly been able to correct the highest degrees of strabismus by two operations and stitching the eye to the commissure. In some cases I have been obliged to make a third tenotomy. I should rather make three tenotomies than make one advancement. Personally, I have had no bad luck with it. but I remember that when a student I had a conversation with the assistant of one of the most renowned ophthalmic surgeons of Europe. 'This operation,' said I 'strikes me as being somewhat dangerous, yet the professor has never said anything about failures.' 'No,' replied the assistant, 'he has not, but I have put the artificial eyes in.' "

Dr. Theobald of Baltimore said he could endorse what Dr. Knapp had said, for he never found it necessary to do an advancement.

The next year, 1886, Dr. Knapp read a paper on "Advancement of Tenon's Capsule in Strabismus" before the American Ophthalmological Society, which he began as follows: "When at our meeting of last year Dr. Holt advocated the correction of higher degrees of convergent squint by tenotomy of the contracted muscles and a simultaneous advancement of its antagonist, I opposed this plan because I was—and still am—convinced that the highest degrees of convergence can be corrected by one tenotomy on each internal rectus, and further, because I considered advancement not quite a safe operation in all cases. Visiting the ophthalmic clinics of Berlin and Paris last winter, I was surprised to find that with Schweigger, Hirschberg, Landolt and others, this plan was a subject of ordinary practice. They claim for it that the correction obtainable by it is as certain as with one or two simple tenotomies; moreover, that protrusion of the eyeball and secondary divergence are less likely to occur. Taking further into consideration how pleasant it is to remove the disfigurement in one sitting and not to be obliged to attack the good eye, we can readily appreciate the advantage of this new plan of operation over the old."

As to the results obtained from advancement in the series of cases reported at that time, my paper affirms that: "When it is considered that the operation for advancement of a rectus muscle is employed in the worst cases of strabismus, twenty corrections of the deformity out of twenty-five operations which was the result in this series of cases may be called a success, for it not only brought the eyes parallel and gave binocular fixation, and in some cases binocular vision, but the eyes were left with but little or no staring appearance and with good movements in all directions." In the twenty-four years since 1885, I have operated a good many times, though of late years not so frequently as formerly, because the patients who came to me did not need the operation of advancement for correcting the heterotropia. That the method of advancement of a muscle, or Tenon's capsule, for the correction of certain forms of heterotropia has become a universal practice, is certainly gratifying to one who first advocated the operations in this country.

Dr. Alexander Duane, New York: Dr. Howe has struck the keynote when he says "Practice according to such inflexible rules is hardly less than malpractice." There is, in fact, no rule that covers all cases. Each case must be judged by itself. It has always seemed to me that it is not so much the maximum ability of each eye to rotate by itself as the way in which the two eyes rotate when acting together, that shows us what to do in these cases. I have not found that the determination of the range of excursion of each eye separately with the tropometer or perimeter has helped me so much as the determination of the range of coordinate binocular movements, parallel, convergent and divergent. These I determine by finding: (a) The amount of deviation for distance as compared with that of near. (b) The prism divergence. (c) The convergence near-point. (d) The field of binocular single vision and the ability of the two eyes to rotate when moving together. This shows whether parallel movements are equal in the two eyes, or whether one eye moves excessively or insufficiently as compared with the other. This is best done by examining with the light and the tangent plane; or, if no diplopia can be elicited, by testing the screen deviation in the different directions of the gaze and by noting whether one eye follows the other in all movements or lags somewhere.

After tenotomy—especially of the superior and inferior rectus—the muscle may give way or some other changes take place by which a slight insufficiency is converted into a complete paralysis. This is a very disastrous result and one difficult to remedy. We should, therefore, be careful to avoid complete section of the superior and particularly the inferior rectus. Again, in advancement, months after the operation, the effect may diminish greatly, so that the result of our operation falls much below our expectations. There is an important difference between advancement and tenotomy, which is not generally recognized, and which is seen especially in operations on the elevators and depressors. A thorough-going tenotomy, sufficient to relieve a marked deviation in the primary position, produces a permanent paresis of the muscle. Consequently, it tends to produce diplopia, which increases fast as the eyes are moved in one special direction toward the periphery of the field of fixation. Or, to put the matter in another way, its effect in offsetting a deviation is much more pronounced in the periphery of the field of fixation than in the primary position. Thus tenotomy of the right superior rectus which produces an effect of 6 degrees or 7 degrees in the primary position would produce an effect of 15 degrees or 20 degrees or more in the right upper field, an effect of 7 degrees or 8 degrees in the left upper field, and very little effect in the lower field except near the primary position. An advancement, on the other hand, produces an effect which is often about as pronounced in the primary position as it is in the periphery of the field of fixation, and is pretty equally distributed over the whole field. Moreover, the advancement of a muscle tends to restrict the movement of the antagonist. Hence, advancement of the right superior rectus would produce an effect marked in the primary position, not very much more marked in the upper field, and perhaps actually diminishing in the far upper field; an effect, too, about equal in amount in the right upper and left upper portions of the field. The effect would also be marked in the lower field, and we may even find evidence of an artificial insufficiency of the inferior rectus in a diplopia developing when the eyes are moved far down. It follows that in correcting a paretic hyperphoria a tenotomy often serves better than an advancement, since the latter does not offset the diplopia nearly so well. If I attempt to correct paresis of the right superior rectus by advancing the muscle, I am likely to leave residual diplopia in the outlying upper field (especially the right upper quadrant), and I may hamper the action of the right inferior rectus enough to produce diplopia in the outlying lower field. If, on the other hand, I attempt to relieve it by doing a tenotomy of the left inferior oblique, I may not neutralize the diplopia in the primary position, but I shall equalize the diplopia in the upper field fairly well. In most cases of extensive paretic hyperphoria, advancement of the paretic muscle, combined with tenotomy of its opponent in the same eye or of its associate in the opposite eye, will be found necessary. In hyperphoria not paretic, which is largely the same in all parts of the field of fixation, advancement (preferably of the inferior rectus) will do better than tenotomy, particularly if the deviation is large. In small comitant hyperphorias a guarded tenotomy of the superior rectus seems the best procedure.

Dr. W. R. Broughton, New York: I think the discussion is confused a good deal. I do not believe the strength of the muscle has very much to do with heterophoria. I believe it is due to a mal-attachment of the muscle or to the length of the muscle, because one finds in high degrees of exophoria very strong interni with adducting power over 50. So that I do not believe it is as much the strength of the muscle as a question of regulating the attachment of the muscle. The question of whether we shall advance or tenotomize depends on whether the muscle will stand setting back without getting a limitation of the rotation. We all admit that tenotomy is easier for the patient and the operator, and if the muscle will stand setting back on the eyeball without limiting the field of rotation to the side, tenotomize; if it will not, then advance. As a matter of fact, in extreme cases we usually tenotomize first on each eye and then advance, getting normal rotation when we finish.

Dr. F. Valk, New York: In all cases of heterophoria I do not think that we should consider the near-point, as there may be esophoria at the distance and exophoria in the near. These cases were first noticed by Noyes, and come under the designation of dextrophoria. My contention is that if we have a perfectly normal balance in infinity we need not consider the heterophoria shown at the near-point. We must have a certain standard of motility as well as of vision, and if we have a deviation from that standard, heterophoria, we must adopt such procedures as may restore that standard. Now, I would suggest that we have only one instrument of any real scientific value, outside of the laboratory, for the estimation of this field of vision, and that is the tropometer of Stevens. Now, in the study of heterophoria we must not limit ourselves to the lateral muscles, but granting that, what are the indications for an operation? A tenotomy or an advancement even in the hands of a skillful operator has a certain element of danger, so may we not try a more conservative path? In heterotropia, do we not have an anatomic weakness of the externi which is always shown by the examination of the rotation by the tropometer, and Landolt long ago proved that advancements are always indicated in squint? But advancements are extensive operations, and I have been more than pleased with my results when I have done the operation of shortening on the externi, and then, if necessary, I have performed a guarded tenotomy under cocain on the squinting eye. For the purpose of illustration, let me give you the rotation of the eyes in a recent case of squint corrected by a double shortening:

R.E. 30° up, 50° down, 55° in, 30° out.
L.E. 30° up, 50° down, 60° in, 35° out.

It seems to me that a moment's glance at these figures will give us the necessary information as to the necessary and safe procedure, even in so-called congenital squint.

Spasmodic Contraction of the Pylorus in Infants.—A communication on this subject in the *Zentralblatt für Kinderheilkunde*, May 1, 1909, from von Starck, of Kiel, states that none of the children in his fourteen cases of spastic stenosis of the pylorus was of a specially nervous temperament or had inherited such. All had been born naturally at term and were normally developed; 2 were brothers born within two years. Half of the twelve children given treatment were breast-fed; his treatment consisted merely in giving the breast or other milk with a spoon or from the bottle, allowing only very small amounts at a time. The stomach was rinsed out only in 3 of the cases, including the one in which the child succumbed to convulsions, not connected with the pylorospasm. Saline infusion was necessary in a few cases, and in some cases he gave small doses of opium with valerian or chamomile, or in the form of Dover's powder or injection of a minute dose of morphin. Warmth to the stomach gave evident relief. He did not advocate operative intervention in any instance, and the children all recovered without it, the cure being complete in from six weeks to four months in all but one case in which eight months were required. The disturbances were first noted in the first or second week of life. Half of the children were the first-born in the families, and two-thirds were boys. Irritation of the stomach mucosa by the unaccustomed presence of food is the probable source of the trouble, too large amounts being allowed at first. Ten of the little patients have been seen again, from one year to nearly five years since, and all are exceptionally robust.

NEUROPATHIC KERATITIS AND SOME ALLIED CONDITIONS, WITH SPECIAL REFERENCE TO TREATMENT *

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During the past four years I have given special attention to all cases of eye inflammation that I have had reason to believe were of neuropathic origin. As a result of my observations I have become convinced that lesions of the eye, due to disturbance of innervation, are too often incorrectly diagnosed and treated. Moreover, I feel sure that many cases of keratitis reported in the literature as unusual are really examples of neuropathic keratitis which do not happen to correspond with text-book descriptions. No doubt in some instances the real nature of a case of neuropathic keratitis is overlooked in the attempt to assign to it a bacterial origin.

The only neuropathic conditions of the eyeball due to disturbance of sensory nerves about which anything definite seems to be known are confined to the cornea, iris and conjunctiva. Of these only neuropathic keratitis is at all well recognized. The latter term is not here used synonymously with the so-called neuroparalytic keratitis as is sometimes done, but in the broad sense indicated by its derivation, that is, to designate any lesions of the cornea due to disturbance of its nerve supply.

CONDITIONS EMBRACED IN NEUROPATHIC KERATITIS

The corneal conditions now generally accepted as neuropathic in origin are classified as herpes zoster corneæ, keratitis neuroparalytica, herpes febrilis corneæ and herpes corneæ neuralgicus. This classification, so far as it goes, is relatively satisfactory, if it is understood not to correspond strictly to differences in etiology. There are probably many, however, who still cling to the traumatic theory of neuroparalytic keratitis, but critical analysis made by Wilbrand and Saenger[1] should convince anyone that this is untenable. The simple fact, it seems to me, that neuroparalytic keratitis never presents any features that have not occurred also in the keratitis of herpes zoster is sufficient evidence that the two are produced in the same way.

In addition to these forms of neuropathic keratitis, several other corneal conditions have been described which are, perhaps, not generally accepted as neuropathic, but which I think should be included under this head. These are dendritic keratitis, superficial punctate keratitis, keratitis profunda, keratitis disciformis, and traumatic relapsing erosion of the cornea. My reason for holding this view is that the corneal changes considered characteristic of these conditions are not infrequently encountered in undoubted neuropathic keratitis, such as herpes zoster corneæ and herpes febrilis corneæ, and that typically they are associated with corneal hypesthesia and give the characteristic staining with fluorescin. Thus, dendritic keratitis may occur under the same conditions as herpes febrilis corneæ and is often associated with herpes labialis. The dendritic figure, moreover, may be combined with other features of neuropathic keratitis, such as superficial punctate

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Wilbrand and Saenger: Die Neurologie des Auges, Wiesbaden, 1901, vol. ii.

spots and even vesicles. The malarial keratitis of Kipp[2] is undoubtedly identical with dendritic keratitis and is, therefore, not characteristic of malaria, except probably to the extent that neuropathic keratitis of malarial origin almost always assumes this form.

Superficial punctate keratitis, Fuchs[3] states, is allied to herpes febrilis corneæ, but he does not expressly state that it is neuropathic in origin. In the cases I have seen the staining with fluorescin has been characteristic and there has been hypesthesia of the cornea. It seems to me probable that the condition is really identical with herpes febrilis corneæ, all the lesions by chance taking the punctate form instead of only a few as is usually the case. It is possible, however, that cases due to bacteria may occur presenting this corneal picture. In fact, it is known that this actually occurs in leprosy, and Herbert[4] has described what he regards as bacilli in the epithelial cells in cases seen in Bombay. The bodies described by Herbert, however, may have been products of cell necrosis.

Keratitis profunda and keratitis disciformis Fuchs considers to be distinct conditions. The only constant difference between them, however, seems to be the presence of a gray border around the disc in the latter form. Fuchs holds the view that disciform keratitis is due to some unknown micro-organism which gains entrance through the abrasions resulting from herpes or trauma. Von Hippel[5] does not discuss the possibility of a neuropathic origin, but thinks that both conditions are due to changes or defects in the endothelium which allow the aqueous humor to infiltrate the cornea, and suggests that if Fuchs' view in regard to infection is correct the infection may come from within. He does not believe that the two conditions can always be sharply differentiated from each other. Peters[6] maintains that keratitis disciformis is due to a disturbed innervation leading to edema and necrosis and that the endothelium is secondarily affected. Meller[7] made a microscopic examination of an eye showing the condition in an advanced stage and concluded that Fuchs' explanation was correct. It does not seem to me, however, that this conclusion was warranted by his findings. The facts that both keratitis profunda and keratitis disciformis occur most commonly after herpes zoster ophthalmicus or trauma, that both may be associated with corneal hypesthesia and show outlying superficial punctate spots, impel me to believe that both conditions are essentially neuropathic, the minor differences between them being dependent on differences in the intensity of the nerve irritation.

The condition known as traumatic corneal erosion, which is undoubtedly an exaggerated form of traumatic keratalgia, has been explained by assuming that the epithelium of the cornea, owing to the injury, does not regenerate normally, and is easily brushed off by the lids, especially after the latter have adhered to it during the night. Wickerkiewicz[8] and others, however, have explained it as due to injury of the corneal nerves, and attribute its absence after more severe injuries to the fact that in the latter case the nerves are actually broken. This view seems to me the correct one, because the keratitis produced may simulate almost any of the forms of neuropathic keratitis just described, and there is hypesthesia of the cornea as well as the characteristic staining with fluorescin. Recently Cuperus[9] has brought forward the view, based on the fluorescin test, that the cornea is not normal between the attacks, which I can confirm by my own observations. I am sure, too, that if this test is always carefully applied, few cases of traumatic keratalgia will be met in which corneal lesions are not seen. The neuropathic theory of relapsing traumatic erosion of the cornea accords also with the fact that a special kind of injury is necessary, such, for instance, as that due to the snap of a twig. The injury to the nerves thus produced, however, does not always lead to actual erosions, but, as already indicated, may produce a condition indistinguishable from keratitis profunda. This condition I have seen in almost all cases of traumatic neuropathic keratitis in which the injury did not act directly upon the cornea but through the lid.

It might be expected that in neuropathic keratitis in which the epithelium is almost always altered if not actually lost for a considerable period of time, infection would be a frequent occurrence. This, as a matter of fact, is not the case, for serious infection occurs in only a small percentage of the cases. Since, however, neuropathic keratitis is relatively common, the small number of infected cases constitute a large percentage of all cases of ulcerative keratitis. In fact, while I have no exact statistics bearing on this point, I believe that they constitute the largest percentage of such cases, exclusive of gonorrheal and phlyctenular disease. Some of the worst cases of ulcus serpens have a neuropathic basis, traumatic or otherwise. In these cases, unless seen at an early stage of the infection, it is difficult to determine the neuropathic element. According to Peters,[6] it is the neuropathic element to which ulcus serpens owes its peculiar characteristics.

PATHOLOGY OF NEUROPATHIC KERATITIS

Knowledge of the pathology of neuropathic keratitis is based almost entirely on postmortem examinations made in cases of herpes zoster and neuroparalytic keratitis. Few observations have been made in connection with the histology of the corneal lesions, on account, no doubt, of the difficulty in obtaining material at a sufficiently early stage and uncomplicated with lagophthalmic keratitis. The work of Head and Campbell[10] on herpes zoster, and the admirable exhaustive review of the whole subject by Wilbrand and Saenger,[1] have, I think, established the fact that neuropathic keratitis is due to an irritative lesion of the fifth nerve or Gasserian ganglion. Head and Campbell maintain that in zoster the most important lesion is in the ganglion, but Wilbrand and Saenger give good reasons for believing that the essential lesion is a neuritis. As to the peripheral changes in the skin and cornea, Head and Campbell do not give any definite explanation, but state that they do not assume the existence of trophic nerves.

Wilbrand and Saenger, on the other hand, think that the peripheral lesions are produced in some obscure way by abnormal impulses from trophic nerves. The existence of trophic nerves, however, has never been demonstrated. I would suggest a theory which, while admitting the possibility, does not necessitate the assumption of trophic nerves, and which seems to explain more definitely the production of the peripheral lesions. It is a well-known physiologic fact that if a nerve of any kind is stimulated, impulses, as shown by the galvanometer, pass along it in both directions.[11] Assuming now that such impulses are produced by some lesion of the fifth nerve, it is self-evident that the efferent impulses must give rise to some changes, however, slight, at the nerve terminals. One of the simplest changes that could be imagined, and one that would seem to be physiologically possible, would be the production of an acid reaction. If these impulses were continued for a considerable period of time, sufficient acid or other irritating substance might be produced as to cause the lesions in both the skin and the cornea.

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[2] Kipp, C. I.: Keratitis from Malarial Fever, Tr. Am. Ophth. Soc., 1880, p. 91.

[3] Fuchs, E.: I[illegible]

[4] Herbert, H.: [illegible]

[5] Hippel, E. v[illegible] zum Nachweis von [illegible] Ophth. (Graefe's), [illegible]

[6] Peters: Ueber traumatic Hornhauterkrankungen und ihre Beziehungen zum Herpes corneæ, Arch. f. Ophth. (Graefe's), 1904, lvii, 93.

[7] Meller, J.: Die histologischen Veränderungen des Auges bei der Keratitis disciformis, Klin. Monatsbl. f. Augenh., 1905, ii, 335.

[8] Cited by Wilbrand and Saenger: Die Neurologie des Auges, ii, 84.

[9] Cuperus, N. J.: Ueber sogenannte recidivirende Erosio corneæ, Arch. f. Augenh., 1908, lxi, 26.

[10] Head and Campbell: The Pathology of Herpes Zoster, Brain, 1900, p. 353.

This theory of neuropathic keratitis harmonizes perfectly with the recent theory of Fischer[12] in regard to the nature and cause of edema. In herpes of the cornea the occurrence of vesicles leaves no doubt that here is a local edema. This, it seems to me, establishes the fact that edema is not dependent essentially on changes in blood vessels—a fact that is not elsewhere easy of demonstration. It might be urged that the vesicles on the cornea were due to a general edema dependent in some way on the vessels around the cornea or within the globe, were it not that the vesicles often occur and remain definitely localized. According to Fischer, the cause of edema in general is an increased affinity of the tissue colloids for water. This increased affinity may be brought about by a variety of chemical changes, the most important of which is probably the occurrence of acid. It is apparent at once how satisfactorily this theory may be applied in the explanation of the lesions of neuropathic keratitis. Thus the irritative lesion, acting on the fifth nerve or Gasserian ganglion, sends impulses to the cornea which produce an acid reaction or other chemical change at the nerve terminals. This in turn acts on the colloids of the corneal lamellæ or epithelium, causing them to become edematous. The edema affecting the epithelium from behind produces vesicles, erosions, or less marked changes. To explain the denser and, to a greater or less degree, permanent opacities which occur in cases of long duration, it is only necessary to assume further that proliferative changes take place. These could be produced by the action of the irritant on the corneal corpuscles leading either directly to proliferation or to necrosis followed by the process of repair.

The variations in the corneal changes in neuropathic keratitis could be readily explained by variations in the intensity of nerve irritation and in the number and distribution of the nerve fibrils involved. The sharp definition of many of the lesions, notably the punctate spots and dendritic figures, may perhaps be simply an expression of the fact that the fibrils in the nerve trunks are collected into bundles. Wilbrand and Saenger have offered an ingenious explanation of the variations that occur in different cases in regard to pain and disturbance of corneal sensibility. This is, briefly, that these variations are dependent on whether the nerve lesion produces impulses in one or both directions, and on the extent to which it blocks off impulses in one direction or the other. It is obvious that this explanation is applicable whether or not the existence of trophic nerves is admitted.

ETIOLOGY OF NEUROPATHIC KERATITIS

As just explained, neuropathic keratitis is almost certainly due to an irritative lesion of the fifth nerve or its ganglion. The character of this lesion otherwise seems to be unimportant, so that similar corneal changes may be produced by various causes, such as trauma, tumors, meningitis, tubercle, syphilis, hemorrhage, or to primary neuritis. In a particular case, therefore, it may be difficult or impossible to determine the etiologic factor. Head and Campbell[10] assert that herpes zoster is a specific infectious disease analogous to acute poliomyelitis. This may be true of the majority of cases, yet a condition indistinguishable from zoster may occur in the course of other infections, such as influenza, or may be produced by trauma or by the action of poisons, especially arsenic. Some observers have even asserted that an atypical form of zoster may be produced by hysteria. In certain cases of herpes corneæ neuralgicus, periodical eruptions of vesicles on the cornea have coincided with the menstrual periods.

Probably the largest number of cases of neuropathic keratitis come under the designation of herpes febrilis corneæ. In most of these there is a history of a recent attack of coryza, bronchitis, pneumonia, malaria, or gastrointestinal disturbance, and most often there is herpes facialis or labialis. Cases are met, however, in which no etiologic factor can be determined, so that the distinction between them and herpes zoster corneæ without skin involvement, the so-called *forme fruste,* is obscured. It is probable also that the conditions which ordinarily produce herpes febrilis may exceptionally give rise to a skin eruption identical with that of zoster.

As already stated, trauma of a certain kind acting on the cornea may produce almost any of the corneal lesions of neuropathic keratitis. This is true also of trauma acting on the nerve trunk or Gasserian ganglion from any cause, such, for instance, as fracture of the skull. The indefiniteness, from an etiologic standpoint, of the distinctions between the various classes of neuropathic keratitis is exemplified also by the so-called neuroparalytic keratitis. This term, as commonly employed, seems to be incapable of an exact definition, and is used in an entirely arbitrary manner. It can not be defined on the basis of etiology, since the same etiologic factor, trauma, for instance, may at one time produce neuroparalytic keratitis and at another a condition indistinguishable from herpes zoster. Probably it is most often applied to cases which can not be included under herpes zoster or herpes febrilis. It is used especially to denote the keratitis due to extirpation of the Gasserian ganglion, syphilis, etc., and that due to general nervous disease, such as tabes.

DIAGNOSIS OF NEUROPATHIC KERATITIS

As already indicated, in the majority of cases that come to the attention of the ophthalmologist, the remote causes underlying the nerve lesion seem to be of relatively little importance and, in fact, not clearly understood. On the other hand, in cases of brain tumor, fractured skull, tubercle, meningitis, tabes, etc., the eye condition may be only an unimportant symptom the remote cause of which is at once sufficiently obvious. In any case the possibility of poisoning, especially with arsenic or lead, should not be lost sight of.

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[11] There is evidence also that even under normal conditions efferent impulses, called antidromic impulses, may pass along sensory nerves. Without regard to this possibility it seems probable that all nerves, both afferent and efferent, may in a sense act as trophic nerves, because it is almost self-evident that there must be some reciprocal relationship between the vital activities of the tissue cells and of the nerve filaments with which they are so closely related anatomically.

[12] Fischer, M. H.: The Nature and Cause of Edema, The Journal A. M. A., Sept. 5, 1908, li, 830.

In making the diagnosis of the keratitis itself the important factors to be considered are the sensibility of the cornea, the appearance of the corneal lesions, especially after staining with fluorescin, the injection of the eye, the intraocular tension, the size of the pupil, the subjective symptoms, and the occurrence of herpetic skin eruptions. The testing of the relative sensibility of the cornea requires care in order that the results may be of any value. When the sensibility is completely abolished the condition is, of course, easily determined, but this occurs in very few cases. I have found a piece of thread, as recommended by Fuchs,[3] the most satisfactory test object. More precise methods have been devised, such as blowing a stream of air on the cornea, but in my opinion these are too delicate to be of any practical value. For clinical purposes it is also not practical to differentiate the senses of touch, pressure, temperature and location. I am sure that any change in the sensibility of the cornea to which it is safe to attach any importance can be determined by the thread test if it can be determined at all. The test should be made with reference both to the lid reflex and the sensations of the patient. The former is the only one which can in many cases be relied on, especially in neurasthenic individuals. Not infrequently the lid reflex may be elicited without the patient being fully aware that the cornea has been touched at all. It is best determined by having the patient keep his eyes open without assistance. Unfortunately, many patients as soon as their eyes are approached put their eyelids into a more or less spastic condition which inhibits the lid reflex. In some cases it is necessary to raise the eyelid with the thumb. This is not so unsatisfactory as might be thought, because here the reflex may be both felt and seen by the observer. The cut end of the thread should not be punched directly into the cornea, but rubbed over the surface, the pressure being increased as found necessary. The same path should never be repeatedly traversed, as this may render the epithelium more sensitive. The unaffected eye should, of course, always be tested as a control.

The sensations of the patient may be ascertained at the same time the test for the lid reflex is made. It is always a surprise to the patient to find that the affected eye is less sensitive than the other, and he may answer incorrectly for psychologic reasons. This fact, however, obviously makes the test more reliable when hypesthesia is found. Many patients are influenced by seeing or feeling the movements of the hand making the test, so that these should be masked as far as possible. I always make several preliminary movements before actually touching the cornea, and not infrequently, without any intention to deceive, the patient states that a sensation is felt. This may happen when the cornea is completely anesthetic, and is probably due to the irritable condition of the cortical centers produced by the constant impulses from the nerve lesion. Too much reliance should not be placed on diminution of sensibility over infiltrated areas, as this might occur in other conditions. Various portions of the cornea should always be tested, since the sensibility may be more impaired in some than in others. The periphery of the cornea is normally less sensitive than the center.

The importance of testing the sensibility of the cornea for the diagnosis of neuropathic keratitis is exceedingly great, for while it may be impaired in other conditions, notably in glaucoma and late stages of syphilitic interstitial keratitis, these as a rule are easily distinguished from neuropathic keratitis. In the early stages of interstitial keratitis I have found the corneal sensibility normal or increased, even over the infiltrated areas. There is considerable variation in the sensibility of the cornea among normal individuals; in old age it is apt to be markedly diminished, but the unaffected eye usually offers a satisfactory control here. Cases of neuropathic keratitis are said to occur in which the sensibility of the cornea is normal or increased, but these are too infrequent to be of much importance.

The most characteristic corneal lesions in neuropathic keratitis consist of erosions, vesicles, filaments (filamentous keratitis), superficial punctate spots, and infiltrates or ulcers of more or less dendritic form, occurring singly or in different combinations. Peters has pointed out that the epithelium may be loosened and movable over the affected areas. In cases of long standing the cornea may show permanent opacities and vascularization. The new vessels may be either deep, superficial or in a pannus formation, and are usually few but of large caliber. They are rarely so deeply seated as those in the interstitial keratitis of syphilis. In many cases the corneal lesions are readily seen, but in others they may be overlooked if the fluorescin test is not used. Simple as this test is, it is seldom properly applied and its full value is not generally appreciated. Usually after instilling a drop of the solution the intense stain, which immediately occurs when erosions are present, is alone looked for, whereas this is relatively unimportant, since erosions as a rule may be seen unstained. More important is the light green staining, which is either superficial or relatively deeply seated, and which is not due to actual erosions. To bring this out the fluorescin solution should be allowed to act one or two minutes, and if there is profuse lachrymation a second drop should be instilled. The conjunctival sac should then be washed practically free from fluorescin with boric acid solution. This is important because the film of fluorescin solution over the surface of the cornea may make opacities of any kind, or facets, appear slightly green, or, on the other hand, may mask the areas in the cornea which are actually stained.

Staining of the cornea with fluorescin, exclusive of erosions, occurs in conditions other than neuropathic, but these are usually easily recognized. It occurs in glaucoma and in lagophthalmic keratitis.[13] Deeply seated staining, according to von Hippel,[5] is always due to injury of the corneal endothelium. In regard to glaucoma I can confirm his observations, for I have found the endothelium altered or absent in a number of eyes enucleated for this condition. In one of these cases I observed deeply seated fluorescin staining forty-eight hours before the enucleation. It does not necessarily follow, however, that the injury to the endothelium was the cause of the staining, because both may have been due to changes within the cornea associated with edema. I have failed to obtain any staining in tuberculous interstitial keratitis except in cases in which the epithelium was affected by an infiltrate lying just beneath it. According to von Hippel, there is a limited class of cases of interstitial keratitis due to congenital syphilis in which the infiltrates are chiefly central, which show deep staining with fluorescein. This staining has also been seen in cases of sympathetic ophthalmitis, in which I have myself observed it. I have seen it also in certain cases of iritis which seemed to be undoubtedly syphilitic. Von Hippel apparently did not consider the possibility of a neuropathic basis in any of his cases. Considering the profound changes that may occur in the epithelium in neuropathic keratitis, it would not seem strange if the endothelium should also sometimes suffer. Possibly some of the cases of iritis described by von Hippel were similar to the cases of neuropathic iritis considered below.

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[13] Fluorescin staining similar to that seen in lagophthalmic keratitis may often be obtained in the normal eyes of rabbits or guinea-pigs, being due no doubt to the infrequency of winking in these animals.

The injection of the eye in neuropathic keratitis is almost always entirely conjunctival, even when there is iritis. The amount of injection seems to bear no relation to the degree or character of the corneal involvement. Thus a marked conjunctival injection associated with chemosis may occur while the cornea shows a few lesions brought out only by the fluorescin test. This condition is apt to be mistaken for an infectious conjunctivitis. On the other hand, the cornea may be cloudy throughout and almost completely denuded of epithelium without any ocular injection. When either of these conditions occurs it obviously assists in the diagnosis. There does seem to be some relation, however, between the amount of injection and the amount of pain, although this is not as close as might be expected. In most cases the injection is no doubt due to a reflex vasomotor dilatation arising from the central irritation produced by the nerve lesion. In the marked cases it does not seem possible that this could be the sole cause, but that it is here due largely to the direct irritation of the nerves supplying the conjunctiva. In this way also may be explained the edema of the eyelids which is sometimes associated with neuropathic keratitis. In cases of infection the injection is increased, but often less than would be expected.

The pupil in neuropathic keratitis is usually somewhat smaller than in the normal eye. In exceptional cases, however, there has been mydriasis due to an associated paralysis of the third nerve. The intraocular tension is apt to be subnormal, but seldom is it decidedly so. In rare cases glaucoma has ensued.

The subjective symptoms, like the ocular injection, bear no constant relation to the amount of corneal involvement. Pain of a neuralgic character, referred to the eye or neighboring parts, may be extremely severe or entirely absent. Often it is present at the onset only, but it may persist throughout the attack. The feeling of foreign body irritation is common, probably due to the presence of erosions. It may be absent, however, with the greater part of the cornea eroded. Not infrequently all that is complained of is dimness of sight. In such cases the corneal infiltrates may be mistaken for old scars if the fluorescin test is not applied.

The presence of an herpetic eruption on the face should, of course, always be looked for. When the eruption is extensive, as in well-marked cases of herpes zoster, it is too obvious to escape notice, but it may be mistaken for erysipelas. Sometimes all that may be found are one or two vesicles on the side of the nose or high up on the forehead. If herpes of the lips is not present at the time of the examination, inquiry will often elicit the fact of the occurrence of a "cold sore."

TREATMENT OF NEUROPATHIC KERATITIS

The local measures usually employed in the treatment of these patients have been the use of the bandage, atropin, ointments, and in severe cases the application of irritating or caustic agents, such as tincture of iodin or the actual cautery. None of these, however, can be said to be entirely satisfactory, although in mild cases an occlusive bandage may be alone sufficient. The use of the actual cautery has recently been strongly recommended by Amman[14] for herpes febrilis corneæ. Cauterization may no doubt in some cases put an end to the process, but only at the sacrifice of more or less corneal tissue, so that the resulting opacity is probably as great, if not greater, than if the case had remained untreated.

Within the past two years I have adopted a method of treatment, founded on what I believed to be a rational basis, which has proved uniformly successful. It occurred to me that since neuropathic keratitis was due to an irritative lesion of a sensory nerve, recovery ought to follow if the nerve terminals were anesthetized by means of a local anesthetic. Even if permanent anesthesia proved impracticable, it seemed that treatment along this line should lead to improvement in the condition. As an anesthetic for this purpose I selected holocain, for several apparently unimportant reasons, one of which was that it was slightly antiseptic and that its solutions remained sterile. My results were so satisfactory that I have not tried any of the other anesthetics, although it is possible that some of the latter might prove still more efficient. The most important reason, however, for continuing with holocain was that by adopting a single method of treatment in a series of cases, which were extremely variable anyway, it would be possible to arrive at more accurate conclusions as to its value than if the treatment was continually being changed.

Owing to its toxicity it did not seem advisable to use holocain in oily solution or in the form of an ointment, and from the beginning I have used a 1 per cent. aqueous solution. After some experimentation in regard to the frequency of the instillations, I concluded that intervals of no more than two hours gave the best results, and that it was no advantage to make them as short as one hour. I also concluded that a bandage was essential, and of this I feel certain. The bandage that has proved most acceptable to the patients has been one of the well-known celluloid eye-shades with an eye-pad placed beneath. This has the advantage of being cooler, easier to remove for the frequent instillations, and of being less unsightly than an ordinary bandage. The elastic cord should be adjusted to give just sufficient pressure to keep the eyelids closed and no more. In one very marked case, in which only a rim of epithelium remained at the periphery of the cornea, I obtained more rapid improvement by bandaging both eyes. Patients in such cases as this and patients badly infected at the outset are the only ones I have not treated as out-patients. In all cases the bandage and instillations were omitted during the night.

As a rule a mydriatic was not prescribed unless there was a well-marked iritis. If the pupillary reaction was not quite normal it was generally sufficient to instill a drop of atropin solution at the time of each visit. At the suggestion of Dr. P. S. Smyth, I have sometimes added scopolamin hydrobromate in the proportion of 1/300 to the holocain solution with satisfactory results, but I can not say that a small amount of atropin would not prove equally satisfactory.

I have now treated over one hundred patients by this method, and have yet to see a patient who did not improve from the time the treatment was begun. In some cases the cornea failed to stain with fluorescin within a week; in others more or less staining was obtained for a number of weeks. Usually this involved only one or two punctate spots which could easily have been overlooked if not carefully searched for. The treatment was continued until not the slightest staining could be obtained. The bandage was then dispensed with unless, as sometimes happened, the patient desired to wear it longer.

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[14] Amman, E.: Neues Heilungsverfahren beim Herpes Corneæ febrilis, Arch. f. Augenh., 1908, lxi, 194.

Local treatment of the eye could not, of course, have any influence on the source of the nerve irritation so that it might be expected that when it was discontinued the keratitis would recur. This did, in fact, sometimes happen, but in some cases, which no doubt would have run a short course anyway, the keratitis did not recur even when the local treatment was discontinued within one week. No doubt in such cases the nerve lesion had within this time undergone partial or complete retrogression. In a number of cases recurrences took place repeatedly so that it became advisable to try some general treatment.

It suggested itself to me that since arsenic seemed to have a special affinity for nerve tissue, as indicated by the well-known fact that it may produce an herpetic skin eruption, it might act in a specific manner on the nerve lesion in neuropathic keratitis. Whether or not this is really the case, my results following the administration of arsenic have been most satisfactory. In cases which over a period of several months had recurred whenever the local treatment was discontinued, the lesions, after several weeks' treatment with arsenic, became permanently healed. Since it is impossible at the outset to determine whether or not a case will assume this chronic type, to save time I now give arsenic in all non-traumatic cases in which some other general treatment is not indicated. My custom has been to order for adults two drops of Fowler's solution three times daily, to be increased one drop each day until ten drops is reached, at which dose it is continued for a month or longer if necessary. The patients are, of course, warned to note the symptoms of arsenic poisoning, such as gastritis and enteritis.

The cases of neuropathic keratitis in which the treatment with arsenic was not indicated have been very few. In two cases in which lead-poisoning was suspected the use of potassium iodid was followed by prompt recovery This was also used at first in a few patients with syphilitic histories, but with apparently no effect, whereas the arsenic treatment was successful. In several patients with histories of repeated malarial attacks, but with no active symptoms of malaria, arsenic was used instead of quinin with satisfactory results.

The use of arsenic in neuropathic conditions is, of course, not entirely new, since it was long ago advocated for herpes zoster of the skin. Its beneficial action here is not so obvious, because it is comparatively slow in manifesting its effect. If administered early, however, it might be expected to prevent the disease from becoming unusually prolonged. Then, too, almost thirty years ago Kipp[2] stated that he had given arsenic, in medium doses, in many cases of malarial keratitis with very beneficial results.

What has been said so far in regard to treatment has applied especially to neuropathic cases uncomplicated by infection. It is noteworthy, however, that I have not had infection occur in a single case after the holocain treatment was begun. On the other hand, I have seen several patients with infected ulcers and hypopyon recover promptly under this treatment alone; in fact, I have found this treatment advantageous in all forms of ulcerative keratitis in which it has been tried, whether on an evident neuropathic basis or not. In cases of ulcus serpens additional measures have been required, such as cauterization and the Saemisch operation. The holocain treatment has proved most efficient also in cases of keratitis from acne rosaceæ.

While I have no doubt of the value of holocain in the treatment of neuropathic keratitis, when used in the manner described, it is possible that its therapeutic effect may be dependent, in part at least, on some principle other than that which led me to employ it. Certainly the anesthesia produced in a normal cornea by one instillation of holocain does not persist two hours, though it is possible that its effect on nerves constantly irritated may be more lasting. The possibility must be considered that its action may be directly on the tissues, especially on the epithelium. As is well known, solutions of any of the local anesthetics, when repeatedly instilled into the eye at short intervals, produce decided pathologic changes in the epithelium, leading even to necrosis.[15] It may be, therefore, that holocain in a 1 per cent. solution, used every two hours, acts as a stimulant to the tissues. I am in a position to state positively, at any rate, that it does not harm the epithelium even when used in this way for several months, and that erosions of the cornea are rapidly repaired under its use.

NEUROPATHIC IRITIS

In cases of neuropathic keratitis the iris is not infrequently involved. Usually the iritis is of a mild type and the synechiæ give way readily, but in exceptional cases it may predominate over the keratitis. It is known also that iritis may occur in herpes zoster ophthalmicus without involvement of the cornea. There can be no doubt, therefore, that iritis may be produced by the same factors that give rise to neuropathic keratitis. This naturally raises the question whether or not neuropathic iritis may occur unassociated with either keratitis or skin eruptions, that is, without any obvious indication of its neuropathic origin.

I have seen several cases in which I believed that this condition might have existed. Of these I have records of four. In three of these the diagnosis was based chiefly on well-marked hypesthesia of the cornea. In one case, although the cornea remained practically clear, at the end of a week the fluorescin test showed an area of faint green staining apparently just beneath the epithelium. In two of the cases slight fluorescin staining was obtained when first seen. In two of the three cases the onset was with intense supraorbital neuralgia. The fourth case was more suggestive still. In this there had been an attack of superficial punctate keratitis six weeks previously which had responded promptly to the holocain treatment. After an interval of about four weeks a herpetic eruption appeared on the lip on the same side. Two weeks later the patient came to see me, complaining of the most intense neuralgia which had come on abruptly in and about the eye. There was much photophobia and marked conjunctival and ciliary injection. The iris was discolored and showed synechiæ, which, however, readily gave way under atropin. There was no hypesthesia of the cornea and the fluorescin test was negative, although the punctate opacities from the previous keratitis were still visible.

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[15] The relative toxicity of various local anesthetics has recently been studied by Guillery [illegible] hetica für die Behandlung der durch [illegible] nhauttrübung, Arch. f. Augenh., 1908, lx [illegible] of his experiments holocain, 2 per ce [illegible] t toxic of all. His re [illegible] a therapeutic standp [illegible] sults might well have been obtained by var [illegible] of the solutions and the frequency of their [illegible] actors, also, such as duration and rapidit [illegible] e consideration.

While these cases may show that neuropathic keratitis occurs without keratitis, they give no indication of its frequency. It is obvious that should cases occur without hypesthesia and without the circumstantial evidence afforded by the last case, the correct diagnosis would be difficult if not impossible to make. They would naturally be classed as cases of rheumatic iritis, which brings up the question whether many cases so called are not neuropathic in origin. In regard to this I have not sufficient evidence to venture an opinion. In view, however of my satisfactory results in the treatment of patients in intractable cases of neuropathic keratitis with arsenic, it would seem well to try this treatment in any case of iritis of unknown etiology which failed to respond to the usual methods.

NEUROPATHIC CONJUNCTIVITIS

As is well known, in neuralgia of the fifth nerve from any cause there may be hyperemia of the conjunctiva. This is clearly analogous to the conjunctival hyperemia occurring in association with neuropathic keratitis, and no doubt due to the same cause. It may be so marked as to be mistaken for an infectious conjunctivitis, but the neuralgic pain and the lack of purulent secretion usually make the diagnosis easy. In some cases there is hypesthesia of the cornea and conjunctiva. Not much reliance, however, can be placed on a test of the sensibility of the conjunctiva, because normally it is not very sensitive. Other forms of conjunctival hyperemia, such as that due to reflex irritation from the nasopharynx, will not be considered here, since they are not dependent on actual lesions of the fifth nerve. The hypesthesia of the cornea in cases of xerosis suggests a neuropathic basis for this rare condition. This is supported by a pathologic examination made by Circione.[16]

Within the past two years I have come to recognize another condition of the conjunctiva as neuropathic, to which I desire to call especial attention. It is not uncommon and is usually designated by the broad term "episcleritis," under cover of which our ignorance in regard to several ocular affections has frequently been hidden. The condition manifests itself as a localized area of congestion in the center of which the conjunctiva is swollen into a more or less definite nodule. There is also a variable amount of general conjunctival hyperemia. The epithelium over the nodule may be apparently normal, but at some stage it will usually stain with fluorescin. In some cases the surface of the nodule becomes eroded or ulcerated. The nodule may be situated anywhere on the bulbar conjunctiva, not infrequently exactly at the limbus. When in the latter situation the contiguous corneal tissue is apt to be hypesthetic, show localized cloudiness, and stain with fluorescin as in neuropathic keratitis. I have never recognized the condition on the palpebral conjunctiva. The duration is variable, generally from one to six weeks.

My evidence that this is a neuropathic condition, usually analogous to herpes febrilis corneæ, can be presented, perhaps, most briefly by stating the essential features upon which I based the diagnosis in sixteen consecutive cases seen during my last service of four months at the infirmary.

CASES OF HERPES OF BULBAR CONJUNCTIVA

One case: neuralgia and corneal hypesthesia.

One case: corneal hypesthesia, neuropathic keratitis, edema of eyelids, coryza.

One case: herpes labialis, coryza.

One case: neuropathic keratitis in other eye, lead colic.

Three cases: corneal hypesthesia.

Two cases: coryza.

One case: corneal hypesthesia, herpes facialis.

One case: neuralgia, corneal hypesthesia, marginal keratitis.

One case: herpes zoster ophthalmicus, marginal keratitis and hypesthesia.

One case: dendritic keratitis, bronchitis.

One case: marginal keratitis punctata, herpes labialis, coryza.

One case: marginal keratitis, and hypesthesia, bronchitis, herpes labialis.

One case: characteristic conjunctival lesion alone.

The case in the above list in which there was neuropathic keratitis in the other eye, it seems to me, was especially significant. The patient had slept in a freshly painted room for three weeks and during the third week was taken with severe "cramps in the stomach," apparently lead colic. About one week later when seen by me the left eye presented typical neuropathic keratitis with hyperesthesia, while the right eye showed the conjunctival condition described, situated a short distance from the limbus. Both conditions practically disappeared in three weeks under the administration of potassium iodid.

In the list of cases, by "marginal keratitis" is meant the keratitis localized about the conjunctival nodule at the limbus. I have never seen this extend far into the cornea, probably because of the fact that the cornea and conjunctiva are supplied chiefly by different nerves, the cornea by the ciliary, and the conjunctiva largely by the supraorbital and infraorbital nerves. The conjunctival nerves, however, partly supply also the periphery of the cornea,[17] thus accounting for the extension of the conjunctival lesion into the latter.

As already stated, this condition of herpes of the bulbar conjunctiva is usually diagnosed as "episcleritis" and therefore not clearly differentiated from tuberculous scleritis or sclerokeratitis. It may also be mistaken for a large phlyctenule, especially when ulcerated, and probably it will not always be possible to avoid this error. I have always regarded with suspicion the alleged large solitary phlyctenules situated some distance from the limbus, and I am now inclined to believe that they are invariably of neuropathic origin.

When occurring in well-marked cases of herpes zoster ophthalmicus the neuropathic origin of the condition under consideration is, of course, evident. In this connection it is interesting that Wilbrand and Saenger[1] state that a "true episcleritis" may occur in herpes zoster. Judging by the description, the condition referred to would seem to be identical with that observed by me.

In the treatment of herpes of the bulbar conjunctiva the same measures are evidently indicated as in neuropathic keratitis. Practically, however, I have found that treatment is seldom required except when the cornea is involved. Where the conjunctiva is alone affected and the subjective symptoms are negligible, it seems unnecessary to put the patient to the inconvenience of wearing a bandage, since there is no danger of serious infection and no scarring is to be feared as in the case of keratitis.

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[16] Cited by Wilbrand and Saenger: Die Neurologie des Auges, ii, 51.

[17] This possibly explains why a ring of epithelium is left on the cornea in severe cases of neuropathic keratitis. It suggests also a neuropathic origin for certain marginal ulcers.

233 Charles Street.

ABSTRACT OF DISCUSSION

Dr. W. Zentmayer, Philadelphia: Dr. Verhoeff's observations have been made with great care and unusual acumen, and on these observations he reasons logically, and to me, in some instances, convincingly, to sustain his views. To those who have found the want of anatomic proof of the existence of trophic nerves a strong objection to the acceptance of the trophic origin of these affections, he has advanced a plausible theory to explain the causation of these lesions through the sensory nerves. While I have nothing to advance in criticism but what Dr. Verhoeff has doubtless carefully considered and rejected, I wish to bring forward such thoughts as have seemed to me as possible objections, but for which I have no doubt Dr. Verhoeff will have satisfactory answers. Regarding neuroparalytic keratitis, the diversified combination of conditions recorded, the different types of corneal lesions found and the differences in the pathologic findings in the few cases which have been examined microscopically, are the material out of which the several theories thus far advanced have received support, and notwithstanding the strong evidence for the neuropathic theory the majority of writers still hold to the traumatic theory or some modification of it. As Dr. Verhoeff has pointed out, this question is thoroughly threshed out in Wildbrand and Saenger, and it would be a waste of time to bring forward the various arguments that have been advanced in support of the different theories to rebut Dr. Verhoeff's position, so that I shall simply mention the bearing of the pathologic studies that have been made and state the results in some recent research work. In two of the three cases in which microscopic examinations have been made (de Schweinitz and Treitle), the findings were those of a purulent keratitis, rather favoring the mycotic theory. In a recent study of a series of 21 cases of extirpation of the Gasserian ganglion for trifacial neuralgia, in 11 of which keratitis developed, Davies and Hall found in all an unknown bacillus whose presence seemed necessary for its production, but dependent on another factor, the eyelids, which was removed if they were kept closed. As Dr. Jackson says: "In the present state of our knowledge a rational view seems to be that disease or injury involving the trunk or the ganglion of the fifth nerve causes or predisposes to corneal disease partly by an obscure irritative influence and partly by favoring traumatism."

As to keratitis disciformis, such evidence as we have, aside from clinical deduction, favors the view of Fuch's that it is due to infection by micro-organisms of less virulence than those of abscess. While it is true that Meller's specimen was so complicated by conditions which supervened on the disciform keratitis that the deductions drawn from it are in a measure impaired, as it is the only specimen thus far examined, and as the findings support Fuch's contention, it is significant. Animal experimentation and clinical observations in which infection was the undoubted cause of lesions similar to keratitis disciformis have been recorded by Schirmer, and Zur Nedden records a case which went on to ulceration, the streptothrix recovered producing in rabbits an ulcerative hypopyon. It would seem to me that such evidence should have weight. If, as Peters states, the neuropathic element is responsible for the characteristics of serpiginous ulcer, and if, as Dr. Verhoeff believes, a large percentage of all cases of ulcerative keratitis be due to infection of lesions of a like origin, one would expect more of these cases to be of the serpiginous type. I have always looked on the large solitary phlyctenule situated some distance from the limbus as an ordinary phlyctenule with unusual infiltration of the loose cellular tissue between the conjunctiva and sclera in a person subject to lymphatic enlargements and rather expected to see it finally classified as tuberculous. Recent evidence furnished by serum diagnosis is indicative of the correctness of this view. The associated conditions which Dr. Verhoeff has found are, however, very suggestive of it having a neuropathic origin where such conditions coexist, but so far as the individual characteristics of the lesions are concerned they do not seem to me to be of value at arriving at this conclusion. I can confirm what Dr. Verhoeff has said as to the value of holocain in the treatment of superficial erosions. It has been my practice, to prescribe holocain in the conditions under consideration, in corneal ulcerations and after the removal of foreign bodies from the cornea, but in so doing I was impelled not by the pathology of the affection, but because of the desire to use an anesthetic which would allay irritation, and while possessed of antiseptic properties would not at the same time act injuriously on the epithelium of the cornea.

Dr. F. H. Verhoeff, Boston: Dr. Zentmayer has taken issue with me on so many points that it would be impossible to attempt to reply to him in the limited time at my disposal. However, I think my paper itself is a sufficient reply. In regard to the question of the infectious origin of certain of these cases, the mere presence of micro-organisms in the eroded areas is of no significance, since they are clearly secondary invaders. I was, of course, familiar with the recent work of the English observers who claim that the neuroparalytic keratitis following extirpation of the Gasserian ganglion is due to bacilli, but I did not consider it worthy of comment. The bacilli they found were evidently the ubiquitous xerosis bacilli, to which have been attributed almost all diseases on earth.

TREATMENT OF OCCUPATION NEUROSES AND NEURITIS IN THE ARMS*

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In this brief paper is given personal experience in treating over forty cases of sensory and motor disabilities of the arms, the basis of which is usually a neuritis, mild or severe. Most prompt and thorough results are obtained by the personal attention of the physician, proceeding on the lines of:

1. Constitutional regulation, uses of drugs, etc., adapted from the interpretations of Dr. Sajous.

2. Relief of psychic hypertension or misdirection by educative persuasion. Relaxation is needed of the whole organism, as well as of the parts damaged. Economies in the expenditure of forces should be judiciously taught.

3. Quieting of the irritated vasomotor subcenters and also improving their nutrition by influencing the reflex vasomotor reactions, through manipulation of the paravertebral tissues; to be achieved by: (a) Determining by touch the degree of irritation or exhaustion shown by tenderness, infiltration or alterations in morphology of the structures lying adjacent to those segments of the cord in which the arms, etc., are innervated; (b) employing the kind and degree of hand pressure by which these subcenters shall be repaired; (c) relieving sensory disturbances by these same carefully distributed pressures; (4) stroking the lymph channels and the affected nerve paths, thereby relieving local stasis, freeing nerve sheaths and other structures from local hyperemia, toxic wastes, etc.; (5) stretching the limb by carefully graduated and increasing force along with torsions (this can be safely done only by the physician, and, when judiciously performed, affords one of the

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

most efficacious means of relieving pain, aches, heaviness and restoring vigor); (6) re-education in co-ordination, which should be carried on for months or years, by personal effort as well as under supervision, to make sure of complete restoration.

No matter what measures may be employed to relieve the pain (special electric currents or other), unless this motor education is wisely pursued the radical cure may be compromised.

PRINCIPLES OF ACTION

In dealing with the problems of arm pains, disabilities both sensory and motor, occupation neuroses, "writer's cramp," and like disorders, success is obtained in proportion to the exact appreciation and correction of the underlying faults, which are both psychic and physical.

My chief object is to offer to practitioners measures which each one can readily apply—principles of action by the use of which prompt and permanent cures can be effected. It is true, indeed, that from the use of elaborate equipments in electricity, or long specialized systems of treatment at spas, in rest-cures, radical changes in lines of occupation, excellent results often follow. These, however, are expensive in time and money. They often fail. It is a common experience to find patients gravely discouraged who have run the gamut of protracted and costly treatments. Several of my cases were of from two, three or many years' duration, wholly unrelieved. Some of the worst conditions were cured in a month.

The factors most forceful in relief were found in the outline given above. Long experience in psychoanalysis and moral orthopedia has taught me the efficacy of persuasion or educative measures. Next in importance is a study of the conditions through a specialized knowledge gained by estimating abnormalities in local tension and sensitiveness. Facility in these can be acquired through practice. It is my opinion, often expressed, that physicians have neglected a most important field of diagnosis and treatment. This lies in the manipulation of structures, in the education of the hands so that they shall perceive and appreciate all those factors which the surgeon utilizes and a good deal more. The surgeon is content to learn the grosser differences which indicate such diseases and derangements as come within the sphere of his interests. The physician should be able to go much further and become an acute percipient of finer distinctions, of divergences from the norm. This is analogous to those more subtle data on which are built the findings of internal medicine.

A long experience in teaching in a postgraduate medical school (the Philadelphia Polyclinic College) has impressed me with the fact that the average well-taught practitioner makes little use of his hands; exhibits, indeed, marked distaste for manipulations; furthermore, that relatively few are equipped with tactile appreciation of morphology, minor differences in resistance, density, temperature, balance, position, tension, relaxation, rigidity, mobility, etc. All these exceedingly significant data, obtainable by means of refined touch, have the most direct bearing on daily problems. They are analogous to the exquisite sense perception usually acquired by the blind, and are within the reach of most, provided one elects to utilize his muscular and touch senses.

Nowadays physicians are losing much of their prestige, and, worse than all, their usefulness, to a group of self-assertive "practitioners" who invade their territories effectively. This is wholly unnecessary. The remedy is to examine every suffering person by touch as well as by stethoscope or laboratory methods.

1. Constitutional Regulation

The underlying conditions of neuritis are due chiefly to agencies which reduce the normal defensive properties of the blood. The phenomena are usually those of hypocatabolism, acidosis, accumulations of uneliminated toxic waste products, autointoxication. There is often a history of gout, syphilis, influenza, malaria, or other disease of a debilitating character, which reacts destructively on the organism, reducing the functional activity of the anterior pituitary body. I follow the teaching of Sajous, which explains and simplifies etiology and pathogenesis and renders precise the therapeutic indications. There is usually evidence of recent exhaustion states, due to overexertion, excessive strain, worries, shock, grief, also the overuse of exogenous poisons, tea, coffee, alcohol, tobacco, etc., which, by lowering vitality, derange all metabolic processes.

Among the commonest exciting causes is cold, especially when one is exhausted; also antecedent infections, e. g., tonsillitis, etc.

Measures are indicated which aid elimination, relieve the causes of neural congestion, of hyperemia, active or passive, in the arterioles of the nerves, the vasa nervorum and their capillaries, including the nervi nervorum; the latter, being swollen, exert a pressure on the surrounding swollen structures, which is the main source of pain; also of the heaviness, loss of power, atrophy, etc. These measures may be summarized as follows:

1. Agents to reduce congestion in the painful areas:

A. Drugs which cause general vasodilatation by depressing directly the general vasomotor center, e. g. sodium bromid, or chloral, or both together, veratrum viride in sthenic cases; the nitrites, etc.

B. Drugs which cause general constriction of the arterioles by stimulating the general sympathetic center, e. g. coal-tar products, morphin, atropin, aconitin, gelsemin, cocain, osmic acid.

C. Local remedies which produce reflex constriction of peripheral nerves by irritating directly the cutaneous sensory terminals, e. g. local application of aconitin, veratrin, ethyl chlorid, menthol, guiacol, cocain, chloral, camphor, galvanism.

D. Measures which provoke direct or indirect depletion of perineural arterioles and, therefore, of the endoneural capillaries, e. g. guiacol to the skin, leeches, venesection, cupping, hydrochloric acid, superheated air, local heat, warm pack to the abdomen, a hot flat-iron to the back, etc., to increase the catabolic activity of the trypsin, as chief agent in activating the auto-antitoxin.

E. Measures which tend to eliminate the causes of the neural congestion. For pain occurring intermittently gross accumulations of toxic materials in the blood should be removed, e. g. by purgatives, the best being castor-oil daily for several days. This increases reflexly the relative proportion of auto-antitoxin in the intestinal juices. One may also employ saline laxatives, careful dietetic regulation, use of physiologic salt solution or "sea-water" to maintain alkalinity of the blood, abundant water-drinking.

F. Drugs to controvert the gouty state by stimulating the adrenal system. Sodium salicylate, strychnin in full or tonic doses, sodium iodid, colchicum, sodium benzoate. A course of desiccated thyroid (small continued doses) will often accomplish most good.

2. Relief of Psychic Hypertension

This subject has been sufficiently presented in the outline above.

3. Treatment of the Irritated Subsidiary Centers by Manual Means

This subject is too large for thorough presentation here; the outline of a few essential points must suffice. When there is active pain in the arms there will usually be found tenderness in the paravertebral tissues adjacent to the vasomotor subcenters from which the part is innervated. If the disability has become chronic and the only pain is the distressing ache which follows use, there will be found infiltration and thickening of the paravertebral tissues; disturbances in the alignment of the vertebræ (apparent, not real, due to divergences in nutrition of the structures involved) and these will return to normal morphology and sensitiveness on judicious hand treatment.

When there is hypersensitiveness in the continuity of the nerve gentle friction along its course will quickly and amply relieve it. If it be exquisitely tender, the procedure should be to quiet the center (a) by gently maintained (distributed) pressure; and (b) by gently maintained distributed pressure at the locality in the nerve; later (c) by frictions along the nerve sheath.

4. Stroking Lymph-Channels and Affected Nerve-Paths

Chronologically this is among the first of the indicated procedures. It should be performed centripetally and slowly, gradually increasing the pressure (time about two minutes) Afterward the tissues should be grasped with thumb and fingers and the entire limb squeezed, from extremity to shoulder, to remove local hyperemia, vitiated lymph and other toxic wastes, etc.

5. Stretching or Traction

The one point in the treatment of arm pains on which I am enthusiastic is the application of judicious and graduated stretchings.

For a long time surgeons treated neuralgic states, such as chronic sciatica, by cutting down on a nerve, lifting it out of the surrounding structures and subjecting it to rather severe tractions. This procedure is now abandoned, but skilful masseurs know well that it is possible to secure the effects of stretchings by many cunning devices of marked efficacy. A large personal experience convinces me that the physician is better fitted to apply this measure than anyone else. His knowledge of the pathologic conditions existing in a given instance enables him to be both cautious and emphatic as his judgment decides. The phenomena of repair involve not only derangements in the nerve itself but adhesions in adjacent structures, muscle sheaths, blood vessels, lymph channels, etc., etc. Moreover, it is a well-attested fact (to be explained by the neuropathologist) that stretching of a peripheral nerve exerts reparative effects on centers both subsidiary and primary. Where a limb retains power and elasticity enough to encourage voluntary effort we know that the centers can be thus made to improve. Passive movements are also habitually employed with more or less effect in proportion to (a) the degree of damage to the center, and (b) the degree of skill and persistence of the operator. As to how this should be performed demonstrations are better than description.

The methods which I use are these: I cause the patient to relax the muscles completely; seize the wrist by clasping the fingers of both hands, and bring the "heels of the fists" firmly together. This prevents a painful drag on the skin of the patient. I exert traction on the part slowly, to the point of discomfort, and no more; relax tension and place the limb in another position and again pull; relax and change repeatedly until the limb is made to stretch in about a dozen different positions, describing various arcs about six inches apart on the periphery, and completing the normal circle of arm positions at full length (time about two minutes): Of greater nicety is to place one hand of the operator firmly on the shoulder (deltoid, near the insertion), press the humerus down in the socket; to seize the elbow, using the humerus as a lever, and repeat the various arcs. During these movements the humerus is moved about in its socket in divers possible positions. Finally I seize the arm near the head of the humerus and cause it to describe circles in two (first obverse, then reverse) directions, so that all the tissues immediately thereabouts are put upon the stretch (time about one and one-half minutes). Next I exert torsions to include the full limits of motion, holding tense a few seconds at the end. By this time any painfulness is usually removed. Finally, I lift the arm again, as at first, to its full limit four or five times, almost raising the body weight (time complete about five minutes).

The degree of force should be gradually increased, until after two or three weeks (on alternate days) a considerable degree of force can be exerted without marked discomfort.

6. Re-education in Coordination

After each passive treatment it is well to direct the patient to extend the arm and fingers with increasing force, and to hold the tension at the end of the act for three or four seconds; to relax, extend, again hold tense, rotate in various directions; again to extend, hold tense, describing all the normal excursuses.

This series of active movements is not only important to insist on; they should be practiced daily, and later, three times a day for months. Since occupation neuroses are the outcome largely of overuse of the arms in positions of flexion long maintained, this training in extension affords the normal physiologic relief. Furthermore, it is necessary for the motor centers to be stimulated by exciting the extensor reflexes systematically.

Also, since most forms of arm neuritis, especially the protracted and chronic ones, are followed by contractures, and as these are in the flexor sphere, it is essential to overcome them by systematic, forceful extensions, carried on persistently for many months. It will prove a relief to the readily recurring arm aches to insist on the practice of these systematic extension exercises.

By the means outlined any deft physician can relieve or cure most of the motor and sensory disabilities of the arms which present.

1504 Pine Street.

Diagnosis of Tuberculosis.—The early diagnosis of pulmonary tuberculosis should not be beyond the capacity of any physician; furthermore, the responsibility of its early discovery rests on the shoulders of every general practitioner. It is estimated that the patient's chances of recovery are five times greater if the disease is recognized in its incipiency.—C. N. Haskell in *New York Medical Journal.*

ISOLATED AND COMPLETE PARALYSIS OF THE THIRD NERVE OF TRAUMATIC ORIGIN

REPORT OF A CASE *

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Alexander Duane[1] makes the following classification of innervational paralysis of the ocular muscles:

1. Extracranial (orbital or peripheral).
2. Intracranial, comprising:
    - A. Basal and foraminal paralysis.
    - B. Nuclear and fascicular paralysis.
    - C. Supranuclear and cortical paralysis.

We are concerned with Group A, namely, basal and foraminal paralysis.

By basal paralysis we understand one due to lesion of the nerve trunk after its emergence from the brain and before its exit from the skull; by foraminal paralysis, one due to lesion of the nerve as it passes through the sphenoidal fissure.

It is to foraminal paralysis that I wish to direct attention by means of the following case:

AUTHOR'S CASE

For the patient who furnishes the text of this paper I am indebted to Dr. J. W. Putnam of Buffalo, who referred her to me on Oct. 14, 1906. The record is as follows:

History.—Miss E. W. was 17 years old. Her father had died sixteen years before from some malignant disease of the throat. Her mother was living and well. Two older brothers and one older sister were all in splendid health. There was no neurotic strain in the family so far as known. The patient had had no diseases of childhood except measles when quite young; her menstrual history was normal. She had always been in good health with the exception of a suppurating appendix which necessitated surgical interference eighteen months before the present illness. Her convalescence was rapid and complete. Rheumatic tendencies and attacks, sore throat and recent exposures to cold were entirely absent. There was no history of nervous, gastric or intestinal disturbance; no migraine, no headaches, except after prolonged near use of the eyes. Vision had always been acute.

Present Illness.—Three evenings before the examination, while preparing to attend a reception at a neighboring house, the patient "bumped" her head against a half-open door as she passed from one room to another. The point of injury was at the outer angle of the left supraorbital margin. The force of the blow was not enough to cause more than a passing sting, nor enough to abrade the skin. Disfigurement from possible swelling being feared, a few cold cloths were applied. The patient stated positively that she was neither nauseated, dizzy nor made uncomfortable in any other way, and was equally sure there was no nasal hemorrhage. In fact, the injury was regarded as negligible. Within a relatively short time the patient left the house and attended the reception. A few moments after her arrival a companion asked her why she did not open her left eye. This, the patient thought was about forty-five minutes, and certainly not more than an hour after her injury. The question of her friend was the first intimation of trouble, and it was not until then that the patient discovered her absolute inability to raise the left upper lid. More cold applications were used. The next morning, the ptosis still persisting, the family physician was called, who immediately sent the patient to Dr. Putnam. Putnam's diagnosis was third nerve paralysis; he sent the patient to me for further study, with the assurance that hysteria could be eliminated as a possible etiologic factor, he having gone over the case with this in mind, and also that there were no symptoms of fracture of the skull.

First Examination.—The patient was a well-nourished girl, brunette, and in apparent good health; not of the nervous type. There were no evidences of either congenital or acquired syphilis.

Right Eye: Vision 6/7.5. Upper lid moved freely. Excursions of the globe perfect in all directions. Pupil normal in size (3 millimeters), reacting readily to light and distance. Accommodation normal. The patient read Jaeger No. 1 readily. Field limits (taken roughly), normal. Fundus negative.

Left Eye: No sign of injury about the orbit. No swelling of the lids or evidence of orbital inflammation or infiltration. Complete ptosis of the upper lid. Globe turned outward and slightly downward. Pupil dilated (6.5 millimeters) and immotile.

Accommodation: Paralyzed. Candle test showed diplopia in all fields except downward and outward to the left. Neither the external rectus nor the superior oblique were involved. Vision 6/45 (plus lenses' aid). Field limits (taken roughly) normal. No scotomata. Fundus negative.

Examination of the nose and accessory sinuses, negative. Hearing normal. Urine examination negative.

A diagnosis of isolated and complete paralysis of the left third nerve was made. The patient's hygiene was regulated, and the faradic current applied three minutes daily.

Course of Disease.—Oct. 20, 1906: Ptosis disappearing. Pupil reacted feebly and was less dilated. Some return of motion. Accommodation returning.

Nov. 5, 1906: Ptosis hardly noticeable. Left pupil less dilated (4.5 millimeters). Divergence much less. Accommodation much improved. At this time the visual fields were taken on the perimeter and both were found to be normal for white and colors. (There was no color inversion.)

Nov. 6, 1906: Refraction under homatropin:

O. D. V. = 6/7.5 + 1.25 sp. c. + 0.25 Cy. axis 90 V. = 6/5.
O. S. V. = 6/15 + 2.75 sp. + 0.25 Cy. axis 90 V. = 6/6.

Retinoscope checks.

Dec. 15, 1906: Ptosis had disappeared. Pupil normal size, responding readily to all reflexes. Accommodation normal. (The patient read Jaeger No. 1 at fifteen inches without effort.) No diplopia except when patient was very tired, at which time the left lid also drooped. Maddox rod showed 15 degrees exophoria.

April 24, 1908: The patient returned complaining of headache, especially on the left side. These headaches were directly associated with near use of eyes. The patient had become a student of stenography.

Second Examination.—No ptosis, pupils normal in size, equal, responding readily to all reflexes. Accommodation normal. Maddox rod showed 10 degrees exophoria. Refraction under homatropin:

O. D. + 1.25 sp. + 0.25 cy. axis 90 V. = 6/5.
O. S. + 2.00 sp. + 1.00 cy. axis 45 V. = 6/6.

Checked by retinoscope and ophthalmometer.

April 25, 1908. Headaches had disappeared under lenses ordered.

March 14, 1909: The patient returned at my request for examination. She said she had been very well; had had no diplopia, but complained of left headaches which she thought came from her eyes.

Third Examination.—No ptosis. Pupils equal, normal in size and responded readily to all reflexes. Accommodation normal. Maddox rod showed 8 degrees exophoria in distance and 11 near. Candle tests revealed no paralysis or paresis of ocular muscles.

Refraction under homatropin:

O. D. + 1.25 sp. + 0.25 cy. axis 90 V. = 6/5.
O. S. + 2.25 sp. + 0.25 cy. axis 45 V. = 6/6.

Checked by retinoscope and ophthalmometer.

Fundus negative.

March 16, 1909: Fields taken on perimeter were normal for white and colors.

March 18, 1909: Patient telephoned that headaches had ceased under new correction.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Chapter 5, Posey and Spiller's The Eye and the Nervous System, Philadelphia, 1906.

At no time during the course of these diseases were there violent headaches or other symptoms of a deep-seated lesion.

In passing, it is interesting to note the refraction change which took place in the left eye. The first cylinder was at axis 90 and was + 0.25. Six months later 1 diopter of astigmatism axis 45 degrees had appeared which in turn diminished to a + 0.25 axis 45 one year later.

As to the location of the lesion in this case, it seems to me that one may eliminate with great certainty the question of fracture of the base. The patient was studied carefully with that hypothesis in mind, without the discovery of a single sign or symptom leading to that diagnosis, unless it was, indeed, the palsy of the third nerve. The patient was also carefully looked over with the view of eliminating the hysterical element. Both Dr. Putnam and myself kept this possibility in mind, but in the face of most thoughtful consideration such a diagnosis was discarded. There was nothing in the patient's history or condition to warrant a possible diagnosis of lues. With equal assurance one may eliminate trouble in the orbit, both on account of the absence of physical signs of damage there and because the branching of the nerve in the orbit renders traumatism producing complete paralysis practically impossible. Therefore the injury must have been either intracranial or at the point where the nerve passes through the sphenoidal fissure. In the absence of any symptoms pointing to intracranial trouble, we must select, by exclusion, the sphenoidal fissure as the point of injury. The nature of the process might be either a bruising of the nerve trunk or a subperiosteal hemorrhage of sufficient size to encroach on the nerve but not large enough to injure the other structures, gaining entrance into the orbit through this opening. It must be assumed that the branching at the nerve took place at or near the fissure. In point of the former hypothesis I quote from M. Allen Starr's[2] text-book the following: "Severe falls and blows on the head have been known to cause bruising of the nerve against the sharp edge of the sphenoidal fissure." Fracture of the wing of the sphenoid at the fissure must also be considered. From the viewpoint of the symptomatology it seems that the subperiosteal hemorrhage hypothesis is most attractive. The fairly sudden onset and gradual clearing up of the symptoms might easily correspond to the absorption of a blood clot.

CASES IN LITERATURE

A systematic and thorough canvass of the literature since 1870, extending through the *Index Medicus*, Index-Catalogue of the Surgeon-General's Library at Washington, current ophthalmologic journals, many text-books, both ophthalmologic and neurologic, and a careful search of Nagel's *Jahresbericht der Ophthalmologie* for the past thirty-nine years, convince one that isolated and complete traumatic paralysis of the third nerve of neither intracranial or orbital origin is rare. I have been able to find the following nine cases, which I have briefly abstracted:

Case 1.—M. Fleury de Clermont[3] in 1862 reports a case of paralysis of the third nerve following a fall on the head.

A farmer, 24 years old, fell from a wagon, striking his left temple on the ground. Complete and isolated paralysis of the left third nerve followed. Recovery was rapid under no other treatment than blistering. There was no evidence of fracture of the skull. (This case is quoted from Chevallereau[4].)

The following six cases are reported from Girardot:[5]

Case 2.—Reported by Desgouttes and Mueller.[6] Antoine C., aged 41, fell, striking on the right parietal eminence. Total isolated paralysis of both third nerves resulted. There was no evidence of fracture of the skull. Recovery took place in one month.

Case 3.—Reported by Desgouttes and Mueller. Julian G., 18 years old, fell on the head, striking on the right occipital region. Loss of consciousness and complete isolated paralysis of both third nerves followed. There were no signs of fractured skull. Recovery took place in three weeks.

Case 4.—Reported by Durand and G. Gayet.[7] Augustine P., 8½ years old, fell on the head. Loss of consciousness followed and complete bilateral and isolated paralysis of third nerve appearing in one and a half hours. There was no fracture of the skull. Recovery took place in sixteen days.

Case 5.—Reported by M. Ferron.[8] M. G., age not given, veterinary surgeon, fell from a horse. Bilateral paralysis of third nerve followed, but disappeared rapidly except slight diplopia and lowered accommodation persisted. There were no evidences of fracture of skull.

Case 6.—Reported by Rothe.[9] Miss D., aged 17, fell from a horse. Loss of consciousness and complete and isolated paralysis of third nerve ensued. There was no fracture of the skull. Complete recovery took place after four months.

Case 7.—Reported by M. Ferron[8]. William F., aged 43, fell on his head. Loss of consciousness followed. There was no evidence of fracture of skull. Complete and isolated third nerve paralysis resulted. Recovery was complete after three months.

Case 8.—J. E. Weeks[10] reports the instance of a young man who was struck one-half inch below the inner canthus on the right eye by a fencing foil, which had pierced his mask. The wound was slight. There was no loss of consciousness. On the following day there was complete paralysis of all structures supplied by the right third nerve. In his remarks concerning the pathology of this case Dr. Weeks says that he thinks it very probable that there was a subperiosteal hemorrhage at the place where the nerve passes through the sphenoidal fissure. Whether there was a fracture of the wing of the sphenoid at this point or whether a rupture of a subperiosteal vessel he does not attempt to decide. Recovery took place in about fifty days.

Case 9.—M. Allen Starr[2] speaks of a patient in his own observation who had a sudden third nerve paralysis following a fall on the head while alighting from a carriage. After six months' duration recovery was complete.

In all the cases quoted above, with the exception of Case 9, in which no detailed history is given, the individuals were in good health with no luetic histories.

DOUBTFUL BUT POSSIBLE CASES IN LITERATURE

In addition to the nine cases quoted I have found in the literature the following five cases, which are possibly to be grouped as true cases, but which present features making one suspect etiologic factors other than foraminal paralysis. That of Goldschmidt[11] was placed by Girardot on his list, but seems to me to be doubtful on account of the difficulty of eliminating basal fracture with certainty.

Case 1.—Reported by Goldschmidt.[11] A young man, aged 21, suffered a gunshot wound in the mouth. Several hours later complete and total paralysis of the third nerve presented itself. Goldschmidt does not speak of the result or say whether there were symptoms of basal fracture. (Classed with doubtful cases on this account.)

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[2] Organic Nervous Diseases, Philadelphia, 1907, p. 647.

[3] Fleury de Clermont: Bull. Soc. de chir., séance du 31 Dec., 1862.

[4] Chevallereau, Armand: Recherches sur les paralysies oculaires consécutives a des traumatismes cérébraux, Paris, 1879.

[5] Girardot, Charles: Paralysies traumatiques isolées et complètes du nerf moteur oculaire commun, Lyons, 1903.

[6] Revue gén. d'ophth., April, 1903, p. 152.

[7] Arch. prov. de chir., March 3, 1901, p. 325.

[8] Thesis, Lyons, 1901.

[9] Memorabilien, 1876, xxi, 411.

[10] A Case of Injury to the Motor Oculi Nerve Followed by Paralysis, New York Ophth. Rec., 1897, vi, 174.

[11] Wien. med. Wchnschr., 1893, xliii, No. 7.

Case 2.—Reported by F. Denti.[12] A man, 38 years old, while intoxicated, fell from steps and sustained a total paralysis of the right ocular motor. (There was no report as to whether there was involvement of other nerves or as to whether there was fracture of the skull.)

Case 3.—Reported by Gaupillat and Regnault.[13] A young soldier, while fencing, was struck in the inner angle of the eye by a bayonet, making a very slight tearing of the conjunctiva. The patient was much depressed, fearing loss of sight. The eye was immovable; the pupil dilated; accommodation absent; light perception only. All unfavorable symptoms passed away and the question as to hysteria as the factor arose. (The loss of vision makes a diagnosis of hysteria possible, especially when taken with the patient's mental depression.)

Case 4.—Reported by Prof. J. Komoto.[14] A boy 4 years old was injured twenty-five days previous to having been seen. He was struck on the upper left side of the forehead by a falling wall-clock. There was no loss of consciousness or vomiting. There was a left ptosis. The eye turned out and down. The pupils were normal. Recovery, except slight ptosis, took place. On account of the non-involvement of the pupil the diagnosis of nuclear paralysis is probable. It is possible that had the case been seen immediately after the injury, paralysis of the contractor fibers of the iris would have been noted.

Case 5.—Devoe[15] reports a case of double third nerve paralysis following an accident. Devoe believed that the cause was hysterical. Recovery. (The details of this case are so meager that it is impossible to class it definitely. Fracture of the skull is not eliminated or paralysis of other ocular nerves.)

In conclusion I can do no better than translate verbatim the conclusions of Dr. Girardot's admirable thesis on this subject:

1. Traumatic paralysis of the motor oculi are rare, especially when one takes into consideration the frequency of palsies of the ocular muscles.
2. The anatomic relations of the motor oculi with the base of the brain are such as to make laceration or compression by bone lesions easy. Indeed, it is not uncommon to see paralysis of the motor oculi associated with those of the facial, or patheticus or abducent and following fractures of the skull, but the isolated paralysis of the third nerve are independent of fractures. They are, probably, due to a hematoma located about the nerve or in its sheath.
3. From the standpoint of the symptomatology there is nothing of special interest, except that they are isolated and complete.
4. Admitting compression by hematoma it does not seem that surgical interference is justifiable, for though the process be a slow one, recovery occurs spontaneously in about two months.

482 Delaware Avenue.

ABSTRACT OF DISCUSSION

Dr. Wendell Reber, Philadelphia: I think this Section is indebted to Dr. Francis for a very careful study of a rare and interesting condition. The fascination in this kind of case is to find the site of the lesion. We see many isolated third nerve palsies, but isolated traumatic ones are rare indeed. Isolated palsies of the sixth or fourth nerve are common enough, such palsies of the fourth being most frequent after operation on the frontal sinus and of the sixth being an accompaniment of even minor fractures at the base. In diagnosing this case it is extremely important to exclude hysteria, and I think this has been done. Tuberculosis and syphilis have also been excluded. Hysteria, however, because of the suddenness of the phenomena, was the likeliest complication. This was hardly a hemiplegia, because there were no symptoms to account for it. There were no intracranial symptoms of any moment, and there were no basal symptoms, so that by exclusion we are practically forced to assume that it was a fracture at the sphenoidal fissure with a simple hematoma. The one weak point in this diagnosis is that the hematoma should be so perfectly and beautifully limited as to impinge on to only the third nerve, and yet by exclusion it seems to me we are justified in making that diagnosis.

PRACTICAL IMPORTANCE OF HYPERPHORIA

IN PRESCRIBING LENSES FOR USE AT PARTICULAR DISTANCES AND IN DIFFERENT DIRECTIONS *

M. D. STEVENSON, M.D.
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Hyperphoria, when the head is in the primary position and the test object on the line of intersection of the extended median and horizontal fixed planes of the head (Savage), has received considerable attention by many able investigators. This paper will deal more particularly with hyperphoria at the reading distance and at the reading angle. The prescribing of prisms to correct hyperphoria is of great importance. The correction of 1 degree of hyperphoria, constant at a series of examinations, will give in the average case better results than the prism correction of a very much greater degree of exophoria or esophoria. Normal eye muscles have difficulty in overcoming a 3.5 degree prism base up or down, while adducting power of 50 degrees is often found. Normal eyes have vertical equilibrium. If a series of examinations shows 0.5 degree of hyperphoria, decentering of the lens or the introduction of a prism is usually advisable.

The degree of hyperphoria is often extremely variable at different examinations and even at the same examination. Sufficient time should be given for the patient's eyes to be disassociated, as those who have a strong fusion faculty may at first attempt to combine the two images, even if they are unlike, as the light and streak with the Maddox rod. In some cases the eyes are very loth to disassociate themselves and to rotate independently. A first hurried examination may show no heterophoria but later examinations an increasing amount. The screen, parallax and other tests are sometimes necessary. Cycloplegics by their effect on accommodation, and I think, by direct action on the external muscles, sometimes seem to aid in unmasking latent heterophorias.

After determining the proper lens for each eye separately and after repeated examinations of the hyperphoria have shown a nearly constant amount, the prism is tested in the properly placed and centered trial frame while the patient looks at the distant test chart. Patients will frequently at first reject a much-needed prism placed for only a short time in the trial frame. It is necessary to take sufficient time, that the eyes may adjust themselves to the new conditions. When needed the patient will prefer to retain the prism, as its removal necessitates quite an effort for adjustment. It is often helpful to learn in which part of the test, putting on or taking off the prism, the patient experiences greater difficulty or requires more time to make the adjustment of his eyes. If it takes longer to adjust the eyes on removing the prism it is very likely that a prism is required.

If the hyperphoria found is less than 2 degrees, I usually prescribe the equivalent in degrees by decentering or prisms. When more than 2 degrees is present, I depend on comfort tests of prisms in the trial frames and do not, like many, always undercorrect. However, a 2.5 degree prism is usually selected for 3 degrees of hyperphoria and a 3 degree prism for 4 degrees of hyperphoria. There can be no fixed rule; each patient must be carefully tested. Hyperphoria of over 6 or 7 degrees, which is usually non-comitant or changeable (Duane), can seldom be comfortably corrected by prisms. Low degrees often occasion more discomfort and fatigue than high degrees because no attempt is made to overcome the latter. My operative experience has not been sufficient to enable me to determine definite policies in these cases. Prism exercises are sometimes helpful.

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[12] Paralisi completa, periferica, traumatica del ter 20 pago dei nervi cranici di destra, Ann. di Ottal., xii, 562.

[13] Clin. Ophth., Feb. 25, 1908.

[14] Nippon Gankwa Gakukwai Zasshi, viii, No. 1.

[15] Semaine méd., 1890.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Many observers, recognizing the close relationship between accommodation and convergence, have studied exophoria and esophoria not only at the distance but in accommodation. It has been found that the excess or insufficiency of convergence (so-called), especially that found when fusion is entirely prevented, accommodation alone being active, varies greatly from the degree of esophoria or exophoria for the distance. A separate test is advisable before prescribing lenses for the reading or any special distance. Likewise hyperphoria for the near may vary from that at the distance as illustrated in a case by Theobald. Clinically it is more difficult to overcome a certain degree of hyperphoria for near than the same amount for distance. Not only is hyperphoria sometimes found to be variable at different distances, but the degree may also vary if the head be tilted up or down so that the eyes in looking at a distant fixed light are compelled to rotate in a different plane. Many of these cases are partial paralyses of the vertically acting muscles. Duane believes that many cases of hyperphoria are the result of paralysis. He classifies heterophoria as non-comitant, changeable, and comitant, also as periodic or continuous for near and far; Maddox classifies it as paretic and simple or con-comitant. In a considerable number of cases the hyperphoria varies, sometimes several degrees, depending on whether the eyes are in the primary plane or looking upward or downward. If hyperphoria at the distance sometimes varies in different planes, it would seem not unreasonable to suppose that a variation could also occur at the reading distance.

I have had an instrument made by the DeZeng Standard Co. of Philadelphia, to test the hyperphoria for near at various angles indicated on the instrument. The area of light through ground glass is controlled by a rotating disc with holes of various sizes. The light can be moved to any desired distance from the eyes. The Stevens phorometer in connection with the Maddox rod is employed so that the amount of heterophoria is easily indicated. If an amount in excess of that registered on the instrument is present, a clip is provided in which an extra prism from the trial case may be placed. The instrument may be used for distant muscle testing by using a distant light, it being unnecessary to remove the small lamp which, however, can be easily done. The convergence near point for a light may also be easily tested by this instrument on which the meter angles of convergence are also indicated. The lamp may be removed from the shaft of the instrument and used to examine the field of projection when the media are not clear, e. g., in cataract cases.

At the distance the primary horizontal plane is the most important. The best plane for near testing corresponds with that in which the patient usually directs his eyes in near work. This varies, generally in making an angle of about 30 degrees with the horizontal plane. In quite a number of cases the hyperphoria at this angle, more or less constant in several examinations, varies several degrees from that found in the horizontal plane in near or distant tests. As would be expected in paresis, the hyperphoria sometimes changes if the instrument is moved from side to side. Some patients with orthophoria at the distance show two, three or four degrees of hyperphoria at the reading angle. Right hyperphoria at one angle sometimes becomes left hyperphoria at another. Patients will often suffer discomfort if they do not have prisms of different strength in their lenses for distance and for reading. Many such can not wear bifocals (unless perfection with appropriate prisms) because the hyperphoria is not the same for the distance as for near. Some with their hyperphoria properly corrected in separate lenses for near and far are greatly benefited.

It is also important to consider the prismatic effect of lenses when the eyes look through them in different directions. Duane states that he has found hyperphoria present in 15 per cent. of low cases of anisometropia, and in 32 per cent. of high cases. Bruner has found hyperphoria in 30 per cent. of cases of anisometropia. Imagine a patient with anisometropia with a nearly plane lens before one eye and a strong sphere or a strong cylinder at axis 180 before the other. In such a case without hyperphoria in the primary plane, if the patient moves his eyes behind the lenses from the primary to the reading plane or *vice versa*, he has to overcome in all positions but one, a large degree of what may be termed artificial lens hyperphoria, which is often very distressing and one of the common reasons why it is difficult to give these patients relief. Separate distant and reading lenses or half grab-backs or grab-fronts with correct centering for a particular plane should more often be prescribed in anisometropia and antimetropia. If the lenses are strong great care should be used to see that they are properly centered. It is often easy to bend the frames up on one side and down on the other to center the lenses better for distant objects. In cases of anisometropia with proper lenses and frames before the eyes, I teach the patient by having him tilt his head up and down, that there is only one easy position in which to hold his head in order best to see distant objects. He is directed to hold his head so that it will be easiest for his eye muscles. The person receiving reading lenses of different strength is taught that there is not only a proper distance for his close work but also that it should be held at a particular angle. An anisometropic patient whose lenses are quite different must learn how to hold the head and the best position for the object looked at if he is to derive the greatest benefit.

Many who use bifocals, since they are often compelled to look through their lenses at a strong angle, are made uncomfortable, not only by the changed astigmatism, but also because the hyperphoria, artificial or true, at that angle is not considered. I now test all patients at primary and reading angles without lenses and with them, and as a result sometimes prescribe two pairs or perfection bifocals containing different prisms where I used to prescribe unsatisfactory cement bifocals. Since hyperphoria is changeable, its degree should be retested at intervals, especially if there is any discomfort in using the lenses.

Before this Section, it is unnecessary to be specific in outlining a policy in these varied and changing conditions. Each case must be a law unto itself, but this changing true or artificial hyperphoria with or without lenses deserves more attention.

Everett Building.

ABSTRACT OF DISCUSSION

Dr. Alexander Duane, New York: As Dr. Stevenson states, the detection of hyperphoria frequently requires repeated examinations. Genuine hyperphoria may escape notice because it is slight or because it is latent. On the other hand, at the first examination a hyperphoria may be simulated when none exists. In the one case a true hyperphoria is concealed and in the other a false hyperphoria is produced by temporary spasmodic action of the muscles. It may then require repeated tests to show whether the habitual condition is one of orthophoria or the reverse. In cases of doubt, the use of experimental prisms, as suggested and followed by G. T. Stevens, may clear up the diagnosis. Thus suppose two patients present themselves, each with a hyperphoria of ½°. In one this minute amount may represent a real deviation of 1° or 2°, the hyperphoria being nearly all latent. In the other the ½° may represent all the deviation that there is, or there may be no real deviation at all, the hyperphoria being spurious. In the first patient the finding is of much significance, in the second none. If each patient is made to wear a 1° prism for a day or two, the first patient will not only feel comfortable with the correction but after wearing it will show hyperphoria in excess of the prism prescribed. The second patient will find the prism annoying and a re-examination will show no more hyperphoria than at first, *i. e.*, the prism will be overcorrect. A trial prism of this sort may be made up in the office in a spectacle frame, or be added as a "grab front" to the patient's sphero-cylindrical glasses. Still more important than detection of hyperphoria and the evaluation of its amount is the determination of its cause. A hyperphoria due to insufficiency of a depressor causes much more trouble than one due to insufficiency of an elevator or than one which is completely comitant. I have recently collected a large number of cases of very slight insufficiency of the inferior rectus, in which the symptoms, asthenopia, and less often vertigo, were very marked and persistent, the patient frequently being unable to use the eyes for near work in spite of the most painstaking correction of the refraction, and yet for distance the eyes could be used without discomfort. In such cases and, indeed, in all kinds of hyperphoria, the determination of the distribution and the amount of the diplopia in the outlying portions of the field of fixation afford invaluable aid. Such a determination ought to be made in every case of hyperphoria and in fact whenever the muscles are examined at all, for it often happens that in these very cases there is no hyperphoria whatever in the primary position.

Treatment comprises: (a) General corroborative measures. These are required in the hyperphoria of the hysterico-neurasthenic subject. In these cases the hyperphoria varies in amount from time to time. The field of double vision, too, is often very different in area on different examinations and is often disproportionately large considering the fact that the actual separation of the double images is very small. These patients require rest from eyework, proper bodily exercise, and such other general and local treatment as their condition may suggest. (b) Prisms. In comitant hyperphoria these are especially useful and well borne. In hyperphoria due to insufficiency of the inferior rectus, a prism may be incorporated in the reading glass only; or it may be added to the distance glass in the form of a "grab front" (to be used only in reading) or in the form of a "paster." In the latter case the shape and position of the paster should be carefully adjusted to correspond to the field of double vision—the paster in general occupying the outer and lower portion of the glass. I have in this way corrected an insufficiency of both inferior recti, a "paster," each consisting of a prism of 1°, base down, being placed at the outer lower portions of each glass, in this way correcting a condition in which there was right hyperphoria in looking down and to the right and a left hyperphoria in looking down and to the left. One great objection to the "pasters" is that unless ground to a knife-edge they produce a very bad break at their upper margins and consequent monocular diplopia. (c) Operation. Of this I need not speak except to say that in general we resort to operation only when other remedies have failed and when the condition presents persistent symptoms serious enough to warrant such interference. We address ourselves to the muscle at fault—to the superior rectus or inferior oblique if the elevators are affected and to the inferior rectus if the depressors are affected. In comitant hyperphoria tenotomy of the inferior rectus should be avoided, advancement of the inferior or tenotomy of the superior rectus being performed instead.

Dr. G. C. Savage, Nashville: Any test of the ocular muscles to determine the existence of hyperphoria or other phorias, that is binocular in character, is unreliable, so far as the recti muscles are concerned. The binocular test is certain to excite one or more of the volitional centers into action, and each of these acts on a pair of ocular muscles, one belonging to each eye. The motor centers, both volitional and fusional, should be absolutely quiet throughout the test for hyperphoria. So far as the recti muscles are concerned, one can not do that with the Stevens' phorometer, or any other binocular instrument. It can be done with any instrument of the monocular variety. The only one, so far as I know, is mine. I want to say, however, that the monocular test in the distance, and not in the near, is the test for hyperphoria. There is only one excuse for testing in the near, and that is to determine the normality or abnormality of accommodation and convergence. There is only one excuse for testing to the right or left, or up or down or obliquely with the phorometer. I wish I had time to make myself absolutely clear, but I want to impress on you the importance of rest of all the volitional and fusional centers—absolute rest of the centers of every muscle that moves the eyeball. We can do that by having the monocular phorometer before one eye only, being sure that the image in that eye is displaced far beyond the possibility of fusion. Throw it out of the fusion area. Therefore, the displacing prism should be sufficiently strong to throw the displaced image absolutely beyond that area, and all the centers will have been put at rest—the centers of fusion as well as the centers of volition. The volitional centers are set at rest by looking straight ahead with the other eye; the fusion centers are set at rest by throwing the image, in the eye under test, so far out of the area of fusion that they do not enter into the calculation. By doing this, all the muscles of the eye are going to get into a state of tonicity only, for it takes an impulse of some kind to make a muscle contract. If there is no neuricity coming from the fusion centers, no muscle will be affected. Now, if there is heterophoria, it is going to show itself, and one can measure it. The measuring device of the instrument and the displacing device should be before only the one eye, while the other eye should be free. It is just as easy to tell whether it is paretic or tonicity hyperphoria, as it is to drink a glass of cool water when thirsty. Take a candle and tell the patient to fix his head, and without anything in front of either of the eyes, to follow the candle up and then down. If there is no doubling either above or below anywhere, there is no paresis, and the hyperphoria is one of tonicity.

Dr. W. H. Roberts, Pasadena: I am very glad Dr. Stevenson has brought this subject to our attention, because it is just as necessary to examine the external muscular balance in every case of refraction as it is to examine the fundi. I can speak from bitter experience, because I suffered from uncorrected hyperphoria for years and know what it means.

The necessity of carefully measuring the amount of hyperphoria for near, is well shown in the following case, a brief report of which follows:

July 8, 1904.—Mrs. W. C. B., aged 45, had been suffering from nervous prostration for some months. She had been unable to use her eyes for near for years, and more recently had to stop riding in her automobile, shopping, theater going, and the like, as such expeditions always produced a violent headache. At the first examination I found:

O.D.V. 6/7.5 ?? 1½ esophoria.
O.S.V. 6/7.5 ??? 1° B.U.R. or B.D.L.

Ophthalmoscopic examination, normal.

After repeated examinations, I ordered:

℞ O.D. + sph. 1.25 ⊃ + cyl.0.25 ax 90 ⊃ 1° B.U.R.= 6/5++
O.S. + sph. 1.00 ⊃ + cyl.0.50 ax 75 = 6/5++
With + sph. 1.75 added to each for near.

She returned Oct. 8, 1904, saying that her eyes had felt much more comfortable until recently. I found that her hyperphoria had increased to 2½°. In three months more, this had increased a degree and a half for both distance and near, and with this corrected, she was more comfortable than she had been for years.

Two years later she returned complaining of the same troubles which brought her to me originally, and I found the following:

O.D. + sph.1.50 ⊃ + cyl. 0.50 ax 90 = 6/5) 5° B.U.R. or B.D.L.
O.S. + sph.1.25 ⊃ + cyl. 0.50 ax 75 = 6/5) 2° exophoria.
with + sph. 2.00 added for near.

She was given prism exercises which developed her interni and all exophoria disappeared. For the next year she was comfortable, as long as she did not attempt to use her eyes for near. In February, 1908, her hyperphoria for distance was 5½° and I then made the discovery that her hyperphoria for near was but 4°. Thinking that this discrepancy of 1½° might be the cause of her discomfort when using her eyes, I had made for her reading glasses with 4° of her hyperphoria corrected and she at once became perfectly comfortable and has remained so ever since. She uses her eyes now all she wishes and never has a headache. She has entirely recovered her general health too. I had difficulty in solving the bifocal problem, as I did not wish to use the perfection bifocal. I finally got my optician to grind a flake segment consisting of a + sph. 2.00 ⊃ 1½° prism, base down, which was cemented on her right distance lens which contained a 3° prism, base up. These bifocals she has worn for over a year with entire satisfaction.

Dr. W. C. Posey, Philadelphia: I am in hearty accord with Dr. Stevenson as to the desirability of carefully detecting and frequently correcting hyperphoria, as I am convinced that the correction of the ametropia alone in many cases in which hyperphoria is present, though even in but slight degree, will not relieve the symptoms or remove the source of the difficulty. Careful observation and a statistical study of a large number of patients who had worn vertical prisms for many years has shown me that the incorporation of the prism into the correcting lens has not made higher degrees of hyperphoria manifest themselves than in cases of similar degree in which prisms had not been ordered, while the marked relief which the prisms afforded in many instances have made them indispensable to me. It has always been my practice to determine the amount of hyperphoria at the reading point as well as at 6 meters, and I have frequently noted a discrepancy between the two distances and this is especially true of course in paralytic cases. Like many others perhaps, I have not infrequently given prisms of higher degree for reading than distance, when the hyperphoria was excessive, but the degree of the prisms ordered is generally based on the objective finding rather than on the subjective sensation of the patient.

Like Dr. Stevenson, I have found hyperphoria in anisometropia in all cases in which the difference in refraction between the eyes is at all marked, even when associated with a moderate degree of esophoria or exophoria. Where there is orthophoria in the horizontal plane, or but little difference in refraction between the eyes, hyperphoria is rarely present.

Based on a clinical study of 287 cases of hyperphoria which I made ten years ago, the results of which were communicated before the Section on Ophthalmology of the College of Physicians of Philadelphia (Nov. 15, 1898) I found that of the symptoms evoked by hyperphoria, headache was the most frequent, that of the supraorbital variety predominating. In a small proportion of the cases it was unilateral, usually on the same side as the eye with poorest vision. Typical attacks of migraine occurred in about 5 per cent. of the cases. A symptom of frequent occurrence and of great value in directing attention to the existence of hyperphoria was *found to consist* in an associated reflex in the supply of the facial nerve. This may manifest itself either in a unilateral twitching of the lids, as in nictitation, or more rarely, by a pronounced blepharospasm.

Dr. William Zentmayer, Philadelphia: I am sorry that I can not agree with Dr. Posey as to the effect of vertical prisms of hyperphorias. I am certain that they frequently render manifest, latent hyperphoria, and in Ball's book I expressed the opinion that they might be used for this purpose in the higher degrees in order to render manifest the total error before operating. In the last ten years, I have prescribed vertical prisms in low degrees, under 2°, only very exceptionally. I believe that the cause for frequent ordering of them lies in the improper use of cycloplegics. If thorough cycloplegia is obtained and the error thus found almost fully corrected the occasion for the use of vertical prisms will be only rare.

Dr. E. E. Holt, Portland, Me.: Ever since the phorometer came out I have used it continuously. I practiced using prisms or decentering lenses to a certain extent for years. Now, however, I find myself not using them and very little like the last speaker I correct all the ametropia and get along with that practice. Dr. Savage said that it is useless to use the binocular test for hyperphoria. I have an idea that I have discovered some constitutional diseases, particularly diabetes, by the use of that test for hyperphoria, and if I did not get anything more than that out of it I should consider it worth using.

Dr. Mark D. Stevenson, Akron, Ohio: I was glad to learn from Dr. Roberts yesterday that a flake cement segment could be put on in these cases. My optician refused to make a cement segment and said that the only way to make a difference in the prismatic effect of bifocals was by making perfection bifocals. There is not a man on earth who satisfies all his patients, no matter how carefully his refraction work is done. I feel certain that those men who do not use prisms,, especially for hyperphoria, will be surprised at the results derived from them in proper cases. Some dissatisfied patients, if hyperphoria is present, will obtain complete relief and be pleased if a prism is added to the correction they already have and some displeased anisometropes will be satisfied by attention to a few of the details pointed out in this paper. I have many patients who were temporarily relieved by lenses without prisms in whom hyperphoria developed and who could later be relieved only by the introduction of a prism. In some of these cases, as a matter of experiment, I have tried the same lens but without prisms and the patients were dissatisfied. The introduction of prisms again gave satisfaction. It is well to keep in mind the different causes of hyperphoria. Hyperphoria is real or latent, of which latter at first only a part may be discovered and more may uncover itself later. A certain number of cases are spasmodic. I have found variations in the degree within a few days, and a few months later with improvement of the general health the hyperphoria sometimes disappears, depending on its cause. I have frequently found that hyperphoria varies for the distance and for near, and that it sometimes varies at different angles.

Lack of Influence of Physical and Moral Trauma on Pregnancy.—The prevalent idea that emotional and physical shocks are liable to affect a pregnancy is shaken somewhat when we learn that at the time of the earthquake at Messina, pregnancy continued to normal term in twenty-five women several months pregnant. Notwithstanding the horrors of that time, the pregnancy continued unmolested to term, with delivery of normal children in all but one case, in which the woman had been felled by a beam across the abdomen and held captive for three days. Another woman was delivered prematurely, but not until six weeks after the catastrophe, and an existing endometritis was probably responsible for this. Rebaudi in making a report on these cases, quoted in the *Semaine Médicale*, May 26, states that the contrast between the shock, privations, lack of food, traumas and frequent fractures and the obstetric results is all the more striking as some of the women were of an extremely nervous temperament and some had aborted in previous pregnancies.

LOCALIZED FACIAL SWEATING, FOLLOWING CERTAIN OLFACTORY STIMULI *

GROVER W. WENDE, M.D.
AND
FREDERICK C. BUSCH, M.D.
BUFFALO, N. Y.

The three following cases are instances of a peculiar sweat reflex which does not seem to have been recorded in the literature. The fact that the last two were brought to notice shortly after the first was seen, however, would argue that the condition is not as uncommon as would appear from the lack of records.

In all three cases the sweating is confined to certain definite facial areas and follows, rather quickly, the ingestion, or even the smelling, of certain pungent articles of diet. The reflex involved apparently includes, on the afferent side, the olfactory nerves (possibly, also, to a lesser extent, the gustatory) and, on the efferent side, the secretory fibers of the sweat glands of the face, which are distributed with the seventh cranial nerve.

Why the sweating should be so sharply localized and invariably confined to the same areas, and why certain stimuli and those only, in any given case, should cause this reflex, has not been determined. Heredity is undoubtedly a factor, since, in one case, the condition has appeared in one or more members of the family during four generations, at least, and in the other two cases it has been traced through two generations. In all instances, the individuals thus affected are of a distinct nervous type and have a sensitive skin and mucous membranes. There seems to be, however, no neurotic element present.

Experiments with a variety of other pungent substances, in an endeavor to obtain the reflex, have been negative.

The following is a brief outline of the case histories:

Case 1.—Perspiration of the face, following ingestion of tomatoes, strong cheese, roast beef and pickles.

Patient.—M. L. W., aged 54, married; the second of three children. His mother died of old age at 78; his father died at 56, of yellow fever; one sister died of heart disease at 57. The patient and one sister suffered for years from pronounced hypersensitiveness, involving numerous functional derangements and marked caprices relating to strong odors. The patient has written his own personal history, as well as his idea of the condition of the other members of the family.

History.—"For most of my life, certainly during all the adult period, I have been peculiarly affected by tomatoes, especially by those stewed. Always after eating them a perspiration would break out on my face, especially on the nasal surface, and to a less extent on the upper lip and temples. This generally occurs in one or two minutes, or less. Persons seated with me at the table have often commented on the fact, sometimes noticing it before I was aware of it myself. On the removal of the lid of a covered dish of stewed tomatoes, set directly before me, the inhalation of the fumes sometimes produces the same result, though in less degree. The same is true of strong cheese (as Roquefort) or pickles. My sister writes me: 'We certainly have inherited from our mother a peculiarly sensitive and irritable skin. I do not remember her ever having any actual skin disease, except aggravated eczema, once or twice, on her hands. I can not remember that anything she ate ever brought out perspiration. You must recall how much trouble she had with her nose.' Mother occasionally had a hair tonic applied and always declared that, in a few minutes, she distinctly tasted the quinin, which was one of the ingredients. She was very sensitive to all kinds of drugs, and, on calling in a new doctor, had to urge him to give her less than ordinary doses. My sister continues: 'As for myself, I have had eczema three or four times on my hands, and have suffered terribly each time; as to the perspiration after eating, you are quite right about the cheese.' This in answer to my inquiry as to my recollection of having seen her eat sago cheese and noting the perspiration on her nose, which, when wiped off, showed green on the handkerchief. 'Green cheese always affects me in that way, but not often any other kind. I do not know that our sister ever had any trouble in that way; but she had eczema of the legs. My children have never been troubled by perspiration arising from certain foods.'"

Examination.—The patient was tall, well made and fairly muscular; hair light; complexion fair; complained that his skin was always very sensitive to the bites of insects, even to the attack of a single mosquito. When first seen, he was suffering from an eczema of both legs, which made its appearance without apparent cause. The urine was normal. The patient was otherwise in good health. Closely questioned on all points relating to the hypersecretion of sweat due to food, it was his opinion that it followed the use of Roquefort cheese, tomatoes, especially stewed, and, in a less degree, pickles. Lately he had noticed that hot roast beef, especially the odor, induced the same phenomenon.

Demonstration.—March 28, at our request, the patient demonstrated this peculiar influence of the food on the sweat glands. He first partook of cheese and in less than two minutes sweat was noted on his nose and forehead; in less than another minute his entire face was bathed in perspiration. There was neither redness nor flushing, but the skin presented a shiny appearance, due to a sebaceous flow. The cheese was then discontinued and removed from the table. After a delay of ten minutes, his face was wiped a number of times, until free from moisture. He then partook of stewed tomatoes, and in less than one minute the facial sweating became profuse and was much more marked than that following the ingestion of cheese, thus confirming his previous observations. Apparently there was no hypersecretion on other parts of the body, he having carefully examined the region of the axillæ. A series of experiments with garlic, asafetida, valerianate of ammonia and acetic acid gave negative results.

Case 2.—Perspiration of the infraorbital region, following ingestion of onions. The subject was a well-nourished man, aged 40 years, of nervous temperament and sensitive mucous membranes, but otherwise normal.

Family History.—The patient's paternal grandmother, who died at the age of 100, was the first member of the family in whom this peculiarity was noted. His father, who died at the age of 78, suffered from this condition to a marked degree, the sweat literally streaming from the region below the eyes whenever he ate or smelled onions. Two living sisters were affected in like manner, the older, aged 33, being more distinctly influenced than the younger, who was 30. In all of these instances the infraorbital regions alone were affected and onions were the only stimulating agents which would produce the effect.

Demonstration.—On April 18, under the observation of one of us, the patient ate three small green onions. Within thirty seconds he spoke of a sensation of cold under both eyes, followed, in a few seconds, by noticeable beads of sweat, the sweating becoming more pronounced and reaching its maximum in about five minutes, at which time it was so profuse that it was necessary to wipe it away. An attempt was made to stimulate the olfactory region electrically, but without success, because of the sensitiveness of the nasal mucous membrane, which would not tolerate the introduction of electrodes.

Case 3.—*Family History.*—The earliest record of the condition in this family relates to the grandfather, who died at the age of 80. The father in the case under discussion, who is alive and well at the age of 70, has, as long as he can remember, under the influence of certain foods, perspired about the eyes and upper lip. A brother and a sister, both older than the patient, were never subject to the affection. One brother, aged 43, has been thus affected since childhood, while a younger brother has been exempt.

Patient.—The subject of this record was a man of 42, a blonde, of nervous temperament. He had been aware of this condition for fifteen years. His son, now 13, began to show similar symptoms a year ago. The sweat reflex, in himself and in the other instances in this family, cited above, is established through the use of pungent or peppery foods, as well as acids and condiments. The sweating occurs about the eyes, forehead and upper lip. One of us observed the patient, during the ingestion of lobster salad. At the end of one minute profuse perspiration occurred about the eyes, forehead and upper lip, lasting about five minutes and accompanied by a slight erythema. In this case, as in the second one recorded, the sweating was preceded by a sensation of coolness in the skin areas affected.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

CONCLUSIONS

1. Heredity is a decided factor in all these cases; in one, the condition was traced through four generations.
2. The condition is not congenital, since it has not appeared in any of the cases before puberty.
3. Localization of the sweating is identical in all members of the same family.
4. The same stimuli produce the condition in all members of the family.

Clinical Notes

A DIVIDED SHEET FOR GYNECOLOGIC EXAMINATION *

CURRAN POPE, M.D.
Professor of Physio-Therapy, University of Louisville, Medical Department; Consulting Neurologist, Louisville City Hospital; Superintendent, The Pope Sanatorium
LOUISVILLE, KY.

I present a new modification of the ordinary sheet used in gynecologic examination and treatment. This sheet has proved so satisfactory in my hands that I have discarded the older sheet and now use the new device altogether. It is simple and can be easily made in a few moments by any woman with needle and thread or machine.

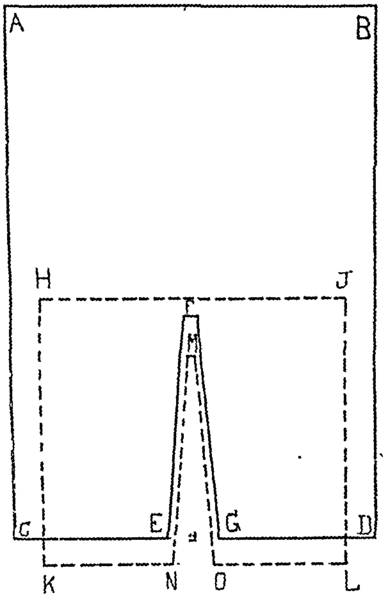

Diagram to show method of making a sheet for gynecologic examination.

To make the sheet take any ordinary sheet of sufficient size (7 by $5\frac{1}{2}$ feet) such as is used in ordinary gynecologic examinations and spread it on the floor; at one of the long ends (CD) mark a dot to show the center. From this central point on the edge measure toward the center of the sheet 3 feet (F); from the dot in the center of the end, measure 2 inches on each side; then cut out the triangle (EFG). The edges of this triangle should be hemmed or bound with tape. Take a piece of cotton $5\frac{1}{4}$ feet square (HJKL) and spread it on the floor. Mark the center of one edge and a point $2\frac{1}{4}$ feet distant from the first point, on a line perpendicular to the edge. Take the scissors and cut the sheet at this point, hemming or binding the edges. This second sheet (HJKL) is sewed to the large sheet (ABCD) 8 inches above the bifurcation on the large sheet at F. It is an excellent plan to bind securely with silk or thread the edges of the bifurcations at F and M. It will thus be seen that this is a double bifurcated sheet in which a smaller sheet is superimposed on a larger one.

In use the nurse places the patient in the ordinary dorsal gynecologic position, wrapping the left leg with the flap (FGD) of the large sheet and the right limb with the flap (FEC), thus perfectly protecting the lower limbs. The two flaps (KNM and LOM) of the smaller sheet, hanging down in front, are tucked neatly under the buttocks.

It will be readily seen by those who have had any gynecologic experience that examinations, both digital and instrumental, can be made with the slightest possible exposure—very much less than with the ordinary sheet. I have found it especially nice when using specula, as it enables the physician to introduce them, tuck the sheet snugly around and thus secure absolute protection. From the time when I first began to use the sheet, a number of months ago, patients at once commented on the facts herein noted.

115 West Chestnut Street.

MOTOR APHASIA AS A SEQUELA TO SCARLET FEVER

REPORT OF A CASE

NICHOLAS LAWREY, M.D.
BROOKLYN

A child, aged 6, well nourished, had a chronic discharge from the ears, and an attack of measles three months previous to present illness. The scarlet fever started with nausea, headache, vomiting and high fever (105 F.). Cerebral symptoms, as restlessness, delirium and mental apathy, were predominant. The patient could be aroused for medicine and nourishment, but soon sank again into a mental stupor. On the fifth day of the disease his ears began to discharge, the temperature remaining high with remissions, till the seventh day, when improvement began and amelioration of all the symptoms. By the middle of the second week paraplegia of the left side was noticed with motor aphasia. The patient seemed to understand words, and retained full power of hearing, but the power of articulate speech and of producing complicated movements in the region of speech muscles was wanting. The tongue could not be protruded well and deviated to the left. The paralysis lasted a few weeks, and the patient is gradually regaining his power of speech three months after illness.

283 South Second Street.

Autografting.—Marion S. Souchon, M.D., House Surgeon Hôtel Dieu, New Orleans, La.: The following method, though not evolving a new principle, is original in the application of the Reverdin and Thiersch methods of grafting. At the skin edges of a granulating surface are found the proliferating new cells which are particularly active. This new tender membrane is easily removable and may be used as a neograft: One may either make pin grafts, or detach a strip at one end only, and spread it in the shape of a peninsula. The method is so simple and the results so unfailing as to make further description unnecessary.

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* Exhibited before the Louisville Society of Medicine.

Therapeutics

HAY FEVER

It is now time for the annual discussion of the treatment of this disease. The highest aim is prevention, and before the periodic attack occurs, long before if possible, the patient's nose should be thoroughly examined for localized irritations and hyperesthetic areas, and these should be cauterized or removed as deemed best by the nasal specialist.

If, in spite of the building up of the general health and the local preventive measures, the attack of hay fever recurs, then before the date of the beginning of the disease the patient should, if possible, go to a region where he has found that he is more or less immune. As the disease seems to be caused by the pollen or irritants in the atmosphere, produced or blown from various flowers and weeds, the ideal spot for these patients is one where there is little vegetation. Some patients do well in the mountains, some at the seashore, some on island resorts, some on sea trips. There generally can be found a region in which a patient is fairly immune, and to that he must resort annually.

If the attack develops, sedative measures, cleansing measures and general systemic treatment must all be inaugurated. Simple cleansing alkaline sprays give some relief. Many patients are made better with weak solutions of suprarenal, perhaps 1 part to 10,000 of the active principle of suprarenal in physiologic salt solution, or in an alkaline solution such as the liquor antisepticus alkalinus, diluted with an equal part of water, or in Seiler's tablet solution, each tablet being dissolved in 30 c.c. (2 fluidounces) of water. Such a suprarenal solution may be used repeatedly. It causes no habit and will generally give temporary relief. In a few instances the reaction from its use causes more or less congestion, and in such cases of idiosyncrasy it should not be used. Sometimes an ointment of adrenalin chlorid in a pure white vaselin or petroleum (1 to a 1,000) is efficient in causing temporary relief. A drop or two of this is put into the nostril and the contraction of the mucous membrane from the absorption of the adrenalin is sometimes as great as when adrenalin spray is used and often more lasting. Adrenalin chlorid tablets, containing 0.002 gram, allowed to dissolve on the tongue, relieve the congestion, especially in asthmatic cases, and will also relieve the asthma in these cases. Thin oil sprays containing adrenalin chlorid are also at times of value.

There is no justification for the use of cocain as a spray or application if it is to be used frequently in hay fever or in any other nasal condition. The danger of forming the habit is too great.

Antipyrin, quinin and various other local sprays have been recommended and used, but rarely are they of any aid in hay fever.

The local application of various pollen preparations and pollen serums have not been of sufficient advantage to warrant their recommendation as specifics, although occasionally a patient may be benefited by such treatment.

Internally, the following drugs, although failing as many times as they benefit, should be tried in each case that is otherwise incurable, viz.: quinin, atropin, strychnin, antipyrin, iodids and thyroid.

Quinin is sometimes of benefit in large doses, rarely in small doses. Its action when helpful is similar to that in certain cases of urticaria, perhaps as an antitoxin

Atropin to be of value must ordinarily be given to the point of slight physiologic effect, such as dryness of the throat, increased rapidity of the heart, and flushing of the face. In susceptible individuals the pupils may also be dilated. The atropin treatment is certainly unpleasant, and minute doses are generally of little value. Occasionally a patient is benefited by 1/300 or 1/400 of a grain three or four times a day. Such treatment should be tried until it is found valueless.

Sometimes strychnin given in ordinary doses is of benefit. This is especially true in patients who are much weakened, and have a good deal of passive congestion or sluggish circulation in the mucous membranes.

Antipyrin can only be of value when given in sufficient dose to act as an antispasmodic, much as it acts in whooping cough. It may possibly act as an antitoxin to the irritant from the pollen, and may be of benefit when there are asthmatic symptoms. The dose for an adult, to be of value, must be 0.50 gram (7½ grains) three or four times in twenty-four hours. It is well to combine with this treatment the coincident administration of digitalis. If the condition is tedious and prolonged it would rarely be wise to give the antipyrin through the whole period of the disease. If patients suffering from this disease have weak acting hearts, digitalis may benefit them, unless they have some arteriosclerosis, in which case it is ordinarily better not to use it.

In some patients iodids in small doses act for good in causing increased secretion and preventing some of the intense swelling of the mucous membranes. In other patients the condition is made rapidly worse. Sometimes a very small dose of an iodid, as 0.05 gram (or 1 grain) three times a day, after meals, or a small dose of thyroid as 0.05 gram (or 1 grain) of the official thyroid powder three times a day will increase the secretion, dilate other blood vessels and relieve the local congestion. This is especially true in asthma and hay fever after fifty, and where there is gout.

As in asthma, the diet should be very simple. Any extra gastrointestinal irritation will certainly intensify the hay fever symptoms. For the same reason the bowels should be thoroughly moved daily, perhaps best by a gentle saline, as phosphate of soda.

Sometimes the hay fever manifestations are improved by treatment similar to that of uricacidemia, i. e., by a vegetable diet, one as free as possible from purin bases, and the administration of alkalies. The alkali may be potassium citrate or a similar drug. The benzoate of soda may be of value, and often small doses of effervescing Rochelle salt, as 1.00 gram (15 grains) three or four times a day, are of benefit.

A Herniotomy in Africa.—Two young physicians, Mr. and Mrs. William Cammack, who are at work in Chisamba, West Africa, performed their first hernia operation on a schoolroom table. The sheets, towels, and sponges were sterilized by boiling in a galvanized tub, which was the only thing available as a sterilizer; and they had to be used wet, as they could not be dried without danger of soiling them again. The native helper, who speaks a little English, stood by during the performance and helped carry the patient, still unconscious, to his room and bed. In describing the scene afterwards to a group of astonished listeners he said, "I saw—I saw—I saw him die. When we carried him home he was still dead and I never thought he would live again." Dr. Cammack said that people came from far and near to look at the man, who was as much a walking miracle to them as the man the Saviour restored to his mother from a funeral bier was to the people of his day and age.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 17, 1909

THE TREATMENT OF THYROIDISM BY A SPECIFIC CYTOTOXIC SERUM

The fundamental premise of Rogers and Beebe[1] in the treatment of thyroidism by an active antiserum is that the symptoms of the disease have their origin in a condition of hyperactivity of the thyroid. The serum is designed to neutralize, by its antitoxic property, the effects of the thyroid proteid in the circulation, and to inhibit by its cytotoxic property the secretory activity of the gland. It is prepared by the inoculation of animals with pure proteids from human thyroid glands. These authors find that if the pulp of an organ be injected into an alien species, antibodies to all the proteids so introduced are formed. Certain of these antibodies are specific for the organ used in producing them, while others are common to all the proteids of the species from which the organ is taken. By using nucleoproteid of organs that are as nearly blood-free as possible, instead of the whole organ pulp, relatively more of the specific factor and less of the common element is obtained in the serum. Rogers and Beebe believe that the serum produced by nucleoproteid of the thyroid is more cytotoxic, and that produced by thyroid globulin is more antitoxic in its action.

It is of first importance in the intelligent treatment of any case of thyroidism to recognize the type to which it belongs. There is often a progression from a typical thyroidism, through a mixed, indefinite type, to a characteristic condition of myxedema. This clinical progression is accompanied by changes in the pathologic structure of the thyroid which shows a transition from a condition of hyperemia with increased colloid, seen in the early stages, to a state of hyperplasia and diminishing colloid, followed by degenerative changes which result in atrophy of the cells, fibrosis and sclerosis of the vessels with hemorrhages and cysts.

Rogers and Beebe divide their cases clinically into two general classes: (1) those favorable for serum treatment; (2) those that may require combined treatment. The cases favorable for serum treatment are those in which the gland is probably hyperemic or hyperplastic. This first class includes the early, typical cases of exophthalmic goiter in its incipient, mild or severe form, and typical exophthalmic goiter which may have existed for some time in a subacute form with occasional exacerbations, but without marked secondary changes. Their most striking results are obtained in cases of this class, probably because the disease is uncomplicated. They find that serum treatment in such cases promptly arrests the course of the disease. In the severe, rapidly developing type of exophthalmic goiter, which has many of the characteristics of an acute infection, a very marked improvement results from small amounts of serum, an effect comparable to that seen in diphtheria following antitoxin. This type has the most marked toxemia, and furnishes the most convincing clinical evidence of the antitoxic action of the serum.

The severity of the disease and of the reaction, both local and general, to the serum determines the size of the dose and the frequency of administration; the serum is not forced in the face of marked reaction. The majority of patients belonging to the first class progress very favorably, and many recover entirely, with doses of about 0.5 c.c. of active antiserum given, at first, as often as the reaction permits, and later at intervals of from 5 to 7 days. Exophthalmos and goiter are the last signs to disappear, and so long as the latter persists there is some danger of a recrudescence of symptoms under mental or physical strain.

In dealing with the second class of cases, which require combined treatment, pure proteid of sheep's thyroid is given hypodermatically during the course of serotherapy. In such cases hypothyroidism and hyperthyroidism may coexist, and the treatment consists in giving sheep-thyroid proteid to answer physiologic needs, while the abnormal products of the patient's own gland are neutralized by the serum. It seems certain that the serum does not neutralize the physiologic action of the sheep-thyroid proteid given at the same time, and that clinically some patients improve with the combined treatment. No precise rules for the administration of serum and the sheep-thyroid proteid have been formulated. Each case, they state, must be studied in order to determine whether the condition of hypothyroidism or hyperthyroidism predominates, and the authors give a table of the signs and symptoms characteristic of the two conditions which aid in the determination.

Of 246 cases reported by Rogers and Beebe, 227 were of the class favorable for serum treatment. The results show about 30 per cent. of patients cured of subjective symptoms, with objectively nothing more than a gland discoverable on deep palpation. About 50 per cent. of the patients improved; a small goiter usually persisted, but most of the subjective symptoms were relieved. About 20 per cent. of those treated failed to show beneficial effect, and of these about 10 per cent. have died.

THE SEWAGE PROBLEM OF CHICAGO AND VICINITY

Throughout the country attention has been directed in the past in a noticeable degree to the Chicago problem of sewage disposal. During the period when a large part of the city sewage was poured directly into Lake Michigan not far from the drinking-water intakes the excessive prevalence of typhoid fever in Chicago was frequently noted and widely deplored. Later the undertaking of a huge drainage canal to divert the sewage away from the lakes and into the Mississippi valley, and its construction on a scale of almost unprecedented magnitude and at enormous expense aroused much interest both among engineers and the general public. The famous suit between the City of St. Louis and the Sanitary District of Chicago relative to the possible pollution of the St. Louis water supply was another factor that attracted general notice to the local situation.

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[1] Arch. Int. Med., Nov. 15, 1908.

From recent developments it is apparent that some difficult questions still remain to be solved. It may not be generally known that by no means all the sewage of Chicago now passes into the drainage canal. That part of the city lying south of Eighty-seventh street and known as the Calumet District was thinly settled when the drainage canal was projected and was not at first included in the Sanitary District of Chicago, but, owing to its increase in population, it was incorporated in the district in 1903. At present the sewage of this region, estimated as having at least 120,000 population, passes in large part into the Calumet river and thence into Lake Michigan. One of the Chicago water intakes, situated at Sixty-eighth street, is exposed to pollution from this source, and the conditions prevailing in that part of the lake have been compared to those existing near the mouth of the Chicago river before the opening of the main drainage canal.

Further complications have arisen through the rapid growth of other towns all along the southern end of Lake Michigan in the state of Indiana. The sewage of these towns is discharged for the most part either into the Calumet River or directly into Lake Michigan. Since most of these communities obtain their drinking-water from the lake, it is not surprising that typhoid fever is said to be prevalent.

It is evident that the situation is one that does not admit of indefinite delay; neither, on the other hand, does it justify a snap judgment. The plan that has been longest before the public and for various reasons most fully discussed has been the construction of a tributary canal about six miles in length connecting the Calumet River with the main drainage channel, the cost of the whole project being estimated at about $15,000,000. The construction of such a canal, however, has been forbidden by the United States Government on the ground that the diversion of water from the Great Lakes would be so great as to lower permanently the lake level and interfere with navigation. This is in accordance with the report of the International Waterways Commission which recommended that the government should prohibit the diversion of more than the 10,000 cubic feet per second at present used for Chicago drainage. It is estimated that the proposed Calumet canal would increase this amount by 4,000 cubic feet per second. As is well known, the Sanitary District of Chicago has refused to recognize the authority of the government to prohibit this increase, and the case is now pending in the United States courts, where a decision on the point is looked for this summer.

Meanwhile other objections have arisen to the completion of the dilution project. The most serious relates to the capacity of the main drainage channel to care for the increased flow. If the flow of the proposed Calumet canal is added to that of the present drainage basin the main channel will be greatly overtaxed in times of flood. Indeed, it has been recently stated by the President of the Board of Trustees of the Sanitary District of Chicago that "under present conditions the maximum flood, irrespective of what the Calumet canal brings in, will take the total capacity of the main drainage channel." An error in the calculations of the engineers leading to too low an estimate of the flood waters of the Des Plaines River seems to be in large part responsible for this situation.

For the time being, at all events, a setback has been given to the project of a Calumet canal emptying into the main channel. As a direct consequence renewed interest has been aroused in methods of sewage disposal that do not involve direct dilution of the crude sewage. A report on this subject was made about two years ago by Rudolph Hering, the distinguished hydraulic engineer, and contains some suggestions and computations of value. The urgency of the problem, its intricacy and the magnitude of the interests involved have induced the Sanitary District to undertake its study on a broader scale than heretofore. We are informed that an experiment station will shortly be established for the purpose of investigating certain modern methods of sewage disposal, for determining the character of the sewage to be treated and ultimately, it is hoped, for devising ways and means of dealing with the specific Calumet problem. There can be no doubt as to the wisdom of such a step, and much information, of value not only to local officials but to sanitarians everywhere, may be confidently expected.

SECRECY VERSUS LACK OF KNOWLEDGE IN MEDICINE

The *Midland Druggist and Pharmaceutical Review* seems disposed to give members of the medical profession some kind and disinterested advice, and it is pained to see that we adhere to the benighted notion that secrecy in medicine is to be condemned. To quote:

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THE TREATMENT OF THYROIDISM BY A SPECIFIC CYTOTOXIC SERUM

The fundamental premise of Rogers and Beebe[1] in the treatment of thyroidism by an active antiserum is that the symptoms of the disease have their origin in a condition of hyperactivity of the thyroid. The serum is designed to neutralize, by its antitoxic property, the effects of the thyroid proteid in the circulation, and to inhibit by its cytotoxic property the secretory activity of the gland. It is prepared by the inoculation of animals with pure proteids from human thyroid glands. These authors find that if the pulp of an organ be injected into an alien species, antibodies to all the proteids so introduced are formed. Certain of these antibodies are specific for the organ used in producing them, while others are common to all the proteids of the species from which the organ is taken. By using nucleoproteid of organs that are as nearly blood-free as possible, instead of the whole organ pulp, relatively more of the specific factor and less of the common element is obtained in the serum. Rogers and Beebe believe that the serum produced by nucleoproteid of the thyroid is more cytotoxic, and that produced by thyroid globulin is more antitoxic in its action.

It is of first importance in the intelligent treatment of any case of thyroidism to recognize the type to which it belongs. There is often a progression from a typical thyroidism, through a mixed, indefinite type, to a characteristic condition of myxedema. This clinical progression is accompanied by changes in the pathologic structure of the thyroid which shows a transition from a condition of hyperemia with increased colloid, seen in the early stages, to a state of hyperplasia and diminishing colloid, followed by degenerative changes which result in atrophy of the cells, fibrosis and sclerosis of the vessels with hemorrhages and cysts.

Rogers and Beebe divide their cases clinically into two general classes: (1) those favorable for serum treatment; (2) those that may require combined treatment. The cases favorable for serum treatment are those in which the gland is probably hyperemic or hyperplastic. This first class includes the early, typical cases of exophthalmic goiter in its incipient, mild or severe form, and typical exophthalmic goiter which may have existed for some time in a subacute form with occasional exacerbations, but without marked secondary changes. Their most striking results are obtained in cases of this class, probably because the disease is uncomplicated. They find that serum treatment in such cases promptly arrests the course of the disease. In the severe, rapidly developing type of exophthalmic goiter, which has many of the characteristics of an acute infection, a very marked improvement results from small amounts of serum, an effect comparable to that seen in diphtheria following antitoxin. This type has the most marked toxemia, and furnishes the most convincing clinical evidence of the antitoxic action of the serum.

The severity of the disease and of the reaction, both local and general, to the serum determines the size of the dose and the frequency of administration; the serum is not forced in the face of marked reaction. The majority of patients belonging to the first class progress very favorably, and many recover entirely, with doses of about 0.5 c.c. of active antiserum given, at first, as often as the reaction permits, and later at intervals of from 5 to 7 days. Exophthalmos and goiter are the last signs to disappear, and so long as the latter persists there is some danger of a recrudescence of symptoms under mental or physical strain.

In dealing with the second class of cases, which require combined treatment, pure proteid of sheep's thyroid is given hypodermatically during the course of serotherapy. In such cases hypothyroidism and hyperthyroidism may coexist, and the treatment consists in giving sheep-thyroid proteid to answer physiologic needs, while the abnormal products of the patient's own gland are neutralized by the serum. It seems certain that the serum does not neutralize the physiologic action of the sheep-thyroid proteid given at the same time, and that clinically some patients improve with the combined treatment. No precise rules for the administration of serum and the sheep-thyroid proteid have been formulated. Each case, they state, must be studied in order to determine whether the condition of hypothyroidism or hyperthyroidism predominates, and the authors give a table of the signs and symptoms characteristic of the two conditions which aid in the determination.

Of 246 cases reported by Rogers and Beebe, 227 were of the class favorable for serum treatment. The results show about 30 per cent. of patients cured of subjective symptoms, with objectively nothing more than a gland discoverable on deep palpation. About 50 per cent. of the patients improved; a small goiter usually persisted, but most of the subjective symptoms were relieved. About 20 per cent. of those treated failed to show beneficial effect, and of these about 10 per cent. have died.

THE SEWAGE PROBLEM OF CHICAGO AND VICINITY

Throughout the country attention has been directed in the past in a noticeable degree to the Chicago problem of sewage disposal. During the period when a large part of the city sewage was poured directly into Lake Michigan not far from the drinking-water intakes the excessive prevalence of typhoid fever in Chicago was frequently noted and widely deplored. Later the undertaking of a huge drainage canal to divert the sewage away from the lakes and into the Mississippi valley, and its construction on a scale of almost unprecedented magnitude and at enormous expense aroused much interest both among engineers and the general public. The famous suit between the City of St. Louis and the Sanitary District of Chicago relative to the possible pollution of the St. Louis water supply was another factor that attracted general notice to the local situation.

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[1] Arch. Int. Med., Nov. 15, 1908.

From recent developments it is apparent that some difficult questions still remain to be solved. It may not be generally known that by no means all the sewage of Chicago now passes into the drainage canal. That part of the city lying south of Eighty-seventh street and known as the Calumet District was thinly settled when the drainage canal was projected and was not at first included in the Sanitary District of Chicago, but, owing to its increase in population, it was incorporated in the district in 1903. At present the sewage of this region, estimated as having at least 120,000 population, passes in large part into the Calumet river and thence into Lake Michigan. One of the Chicago water intakes, situated at Sixty-eighth street, is exposed to pollution from this source, and the conditions prevailing in that part of the lake have been compared to those existing near the mouth of the Chicago river before the opening of the main drainage canal.

Further complications have arisen through the rapid growth of other towns all along the southern end of Lake Michigan in the state of Indiana. The sewage of these towns is discharged for the most part either into the Calumet River or directly into Lake Michigan. Since most of these communities obtain their drinking-water from the lake, it is not surprising that typhoid fever is said to be prevalent.

It is evident that the situation is one that does not admit of indefinite delay; neither, on the other hand, does it justify a snap judgment. The plan that has been longest before the public and for various reasons most fully discussed has been the construction of a tributary canal about six miles in length connecting the Calumet River with the main drainage channel, the cost of the whole project being estimated at about $15,000,000. The construction of such a canal, however, has been forbidden by the United States Government on the ground that the diversion of water from the Great Lakes would be so great as to lower permanently the lake level and interfere with navigation. This is in accordance with the report of the International Waterways Commission which recommended that the government should prohibit the diversion of more than the 10,000 cubic feet per second at present used for Chicago drainage. It is estimated that the proposed Calumet canal would increase this amount by 4,000 cubic feet per second. As is well known, the Sanitary District of Chicago has refused to recognize the authority of the government to prohibit this increase, and the case is now pending in the United States courts, where a decision on the point is looked for this summer.

Meanwhile other objections have arisen to the completion of the dilution project. The most serious relates to the capacity of the main drainage channel to care for the increased flow. If the flow of the proposed Calumet canal is added to that of the present drainage basin the main channel will be greatly overtaxed in times of flood. Indeed, it has been recently stated by the President of the Board of Trustees of the Sanitary District of Chicago that "under present conditions the maximum flood, irrespective of what the Calumet canal brings in, will take the total capacity of the main drainage channel." An error in the calculations of the engineers leading to too low an estimate of the flood waters of the Des Plaines River seems to be in large part responsible for this situation.

For the time being, at all events, a setback has been given to the project of a Calumet canal emptying into the main channel. As a direct consequence renewed interest has been aroused in methods of sewage disposal that do not involve direct dilution of the crude sewage. A report on this subject was made about two years ago by Rudolph Hering, the distinguished hydraulic engineer, and contains some suggestions and computations of value. The urgency of the problem, its intricacy and the magnitude of the interests involved have induced the Sanitary District to undertake its study on a broader scale than heretofore. We are informed that an experiment station will shortly be established for the purpose of investigating certain modern methods of sewage disposal, for determining the character of the sewage to be treated and ultimately, it is hoped, for devising ways and means of dealing with the specific Calumet problem. There can be no doubt as to the wisdom of such a step, and much information, of value not only to local officials but to sanitarians everywhere, may be confidently expected.

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True, the physician, or the physiologic chemist, has not "fathomed the chemical mysteries of digitalis, ergot," and several other drugs. Neither has he learned all there is to know about quinin or mercury. He does know, however, that quinin will produce certain well-defined effects in malaria and that mercury may be relied on in syphilis. On the other hand, he does not know what result will be obtained by using "Blank's Malaria Cure" or "Slow's Sure Specific." Moreover, even if he finds out what either of these nostrums does to-day, he has no assurance that it will do the same to-morrow. The argument of the *Midland Druggist* amounts to this: You don't know *everything* about any one drug; therefore, it is unnecessary for you to know *anything* about any empirical combination of drugs, said combination being likely to vary, both in individual content and in content proportions. Truly a logical proposition. There is an essential difference between secrecy that is unavoidable and that which is contrived for purposes of gain or deceit. The fact that we are not able to fathom the mysteries of many remedies with which Nature has supplied us is no reason why we should use those made by man in which the element of mystery is purely artificial and exists only for the purpose of commercial gain. When the physician consents to prescribe remedies whose composition is known only to the manufacturer, he is abdicating his office as physician and assuming the function of the prescribing druggist who recommends "patent medicines," about which he knows little, for diseases of which he knows less. In such cases the use of secret remedies is a fault which disgraces the members of a profession. The unknown composition of natural remedies is a hindrance to the advance of pharmacy and medicine, but the use of secret remedies on the part of the physician is a dereliction of duty. The first will be removed by the advance of science; the second can be removed only by raising the ideals of the two professions, and we are sorry to see a representative of pharmacy not only disregarding the highest ideals of his own profession, but endeavoring to lower those of the medical profession as well. There are, however, we are glad to say, pharmaceutical journals which, recognizing the viciousness of secrecy in medicine, would never lend their pages to furthering the cause of nostrum prescribing as is done in this case.

THE DATE OF THE NEXT SESSION

The sixty-first annual session of the American Medical Association will be held in St. Louis, Missouri, June 7 to 10, 1910. The date has just been fixed by a conference between the Trustees of the Association and the local Committee of Arrangements in St. Louis. The preparations for the meeting are well under way, as the St. Louis profession intends that nothing shall interfere with the success of the meeting because of any delay in contracting for halls or in obtaining a prior right to the hospitality of the city during the week selected. The medical profession of St. Louis and vicinity are possessed with the ambition to make the attendance at the St. Louis Session surpass that at the Chicago Session, which now holds the record. The central location is expected to aid in securing a large assembly. Not only this, but they expect to have the session unusually brilliant in every other respect.

Medical News

CALIFORNIA

Commencement Exercises.—The College of Physicians and Surgeons, Los Angeles, held its fifth annual commencement exercises, June 24, when diplomas were awarded to a class of four by Dr. Charles W. Bryson, dean of the faculty. The doctorate address was delivered by Hon. Curtis D. Wilbur.——Oakland College of Medicine and Surgery held its annual graduation exercises May 27. The opening address was delivered by Dr. Haywood G. Thomas, president of the college, and the doctorate address was delivered by Hon. Henry A. Melvin. A class of four was graduated.

State Board of Health Election.—At the meeting for reorganization of the State Board of Health, held in Sacramento, June 26, Dr. Martin Regensburger, San Francisco, was reelected president for the third term; Dr. William F. Snow, Stanford University, was elected secretary to fill the vacancy caused by the resignation of Dr. Newell K. Foster, and Dr. W. LeMoyne Wills, Los Angeles, was chosen vice-president, vice Dr. Wallace A. Briggs, Sacramento.——Dr. James H. Parkinson, Sacramento, has been appointed a member of the State Board of Health, vice Dr. Aden C. Hart, Sacramento.

Personal.—Drs. Fitch C. E. Mattison, Pasadena, John H. Martindale and Wesley W. Beckett, Los Angeles, and Francis M. Pottenger, Monrovia, have gone to Europe.——Dr. and Mrs. Walter Lindley, Los Angeles, have returned from Europe.——Dr. Ray L. Wilbur, Palo Alto, leaves in a short time for Europe.——Vacancy in the position of university physician and head of the board of directors of Peninsula Hospital, Palo Alto, will be filled by the appointment of Dr. Thomas M. Williams.——Dr. George Watt, Willows, has been appointed physician of Glenn county.——Dr. John I. Clark, Santa Ana, has been appointed a member of the board of managers of the Southern California State Hospital, Patton.——Dr. Newell K. Foster has been appointed medical inspector of the schools of Oakland.

ILLINOIS

Pure Food Regulation.—The city council of Rock Island, on June 21, passed an ordinance regulating the sale of ice cream, and fixing a license fee of $5 for the sale of it.

News About Hospitals.—The new Graham Hospital, Canton, erected at a cost of $30,000 is completed and ready to receive patients.——The cornerstone of St. Mary's Hospital, Centralia, was laid by Rt.-Rev. W. C. Luce, vicar general of the diocese of Belleville.

Awarded Damages.—In the case of Dr. Ernest Mammen, Bloomington, against whom suit was brought for $5.000 by Mrs. Carrie Smith, who charged that the defendant had performed an operation on her at the Brockay Hospital and had left a sponge in the abdominal cavity, the jury is said to have returned a verdict in favor of the plaintiff, awarding damages at $1,500.

Personal.—Dr. Albert S. Green and family, Rockford, have returned after five months abroad.——Drs. Joseph Robbins, Levin H. A. Nickerson, Kirk Shawgo, Clarence A. Wells, Ernest Zimmerman, Robert J. Christie and Robert J. Christie, Jr., William W. Williams, Charles D. Center, William S. Knapheide, Frederick M. Pendleton, Thomas B. Knox, Alfred A.

Whipple, John H. Rice, Edmund B. Montgomery and Melinda C. K. Germann have been appointed to the medical staff of Blessing Hospital, Quincy.

Not Guilty.—The indictment of murder against Dr. Cora L. Reed, Rock Island, was dismissed in the circuit court on motion of the state's attorney, June 21. The indictment was based on the charge of the performance of a criminal abortion.——The suit brought by the State Board of Health, on complaint of Kendall county physicians, against John Church, a medicine peddler, is said to have been decided in favor of the defendants at Oswego, June 27.——Dr. Charles W. Johnson, Litchfield, charged with performing an operation for criminal abortion, was found not guilty of the charge, June 27.

Chicago

Increase Directors.—The German Hospital, Chicago, announces an increase of directors from ten to fifteen.

New Hospital.—Plans are being completed for an addition to the Norwegian-Lutheran Deaconesses' Home and Hospital, to cost $75,000.

Personal.—Dr. Jabez D. Hammond fell while descending the stairs from his office, July 8, and fractured his left leg at the ankle.——Drs. John Guerin and Jeremiah H. Walsh have been appointed school trustees.——Dr. E. Lyman Denison had his knee dislocated and two ribs fractured in a street car accident July 8.——Dr. Wesley H. Peck sailed for Europe July 7.——Dr. Albert H. Hoy and family returned from Europe July 5.

Clean Milk for Children.—The milk commission of Chicago has issued a leaflet entitled, "How to Take Care of the Baby." The commission has as its object to give to the children of the congested districts, pure clean wholesome milk at prices below cost in order to bring it within the reach of those for whose benefit it is produced, and to furnish information, instruction and advice to mothers in reference to the care and feeding of their young children.

The Babies' Crusade.—The finance committee of the city council has sanctioned the expenditure of $10,000 by the Department of Health for the summer care of infants. The city has been divided into districts, each having one or more doctors or nurses, and house-to-house visiting is to be carried on, the aim being to instruct mothers, and supply medical aid and actual nursing when absolutely necessary. Card calendar reports are to be filed daily with the Department of Health, which is to be the clearing-house for the city.——Three new fresh-air stations for sick babies of Chicago were opened by the United Charities, July 1, the first on a roof in the congested district of South Chicago, another at Henry Booth House, and the third on the roof of the Northwestern University Settlement.——Camp Good Will, Evanston, opened for the season July 10.——The Gads Hill Camp, north of Lake Bluff, is now in active operation with about 300 in attendance.——The *Daily News* Sanitarium began the work of its twenty-third season, June 28. On the same day, the Chicago *Tribune* Summer Hospital at Algonquin was opened for the season.

INDIANA

Personal.—Dr. David C. Peyton, Jeffersonville, who has been appointed general superintendent of the Indiana Reformatory, has resigned as secretary of the Clark County Board of Health. Dr. W. Marshall Varble has been named as Dr. Peyton's successor.——Dr. William H. Wagoner has been appointed a member of the board of health of Peru.

Society Election.—At the closing session of the Grant County Medical Society for the year, held June 24, Dr. James A. Mattison, National Military Home, was elected president; Dr. John M. Toney, Van Buren, vice-president; Dr. Marshall T. Shively, Marion, treasurer; Dr. Otis W. McQuown, Marion, secretary, and Dr. Charles J. Overman, Marion, censor.

Hospital News.—The contract for the erection of the proposed state tuberculosis sanatorium, on the site near Rockville, has been awarded to a Terre Haute company for $79,841.72.——The State College Hospital, Indianapolis, connected with the Indiana University School of Medicine, may be closed, as it is said not to be needed for clinical purposes and as it has not been paying expenses for some time.——Drs. Charles C. Morris, Rockville; Robert F. Hester, Bloomingdale; E. Albert Evans, Rosedale; Alvin A. Williamson, Marshall, and A. Birch Lockridge and Raymond E. Swope, Rockville, make up the Parke County Hospital Committee.——Nearly $5,000 has thus far been secured by the committee soliciting funds for St. Joseph Hospital, Logansport.——The Frankfort Tuberculosis Sanatorium has been incorporated with a capital stock of $10,000. Drs. Charles Chittick, Albert H. Coble, and James W. Hadley are among the incorporators.

IOWA

Hospital Notes.—Ground has been broken at the State Sanatorium for the Treatment of Tuberculosis at Oakdale, for eight new cottages for patients, and a large dormitory for help. The building will cost $50,000 when completed and the capacity of the institution will be increased to 150.

Sanatorium Report.—The State Tuberculosis Sanatorium near Iowa City has completed its first year of work. During the year 236 patients were received for treatment, 106 of whom were from twenty to thirty years of age, and of these, 30, or 14 per cent. were in the incipient stage. Of those remaining over two months, 80 per cent. were discharged apparently cured. Of the more or less advanced cases, there were 203, and those who remained in the institution more than two months, left greatly improved in condition. Dr. H. E. Kirschner, the superintendent, hopes to have the capacity of the institution increased to 125. The contract for the new buildings at the sanatorium have been let to a Marshalltown firm for $36,775.90. The improvements include a large two-story building for employés, a cottage for the superintendent, a kitchen cottage, a medical cottage, and a one-story patient's cottage. With the balance of more than $10,000 remaining from the appropriation, five additional one-story patient's cottages will be added, thereby nearly doubling the capacity of the institution.

KANSAS

Personal.—The new board of health of Wichita is composed of Dr. Frederick H. Slayton, city physician, police surgeon, and secretary, and Drs. Jacob Z. Hoffman and James W. Cave.——Dr. Robert H. Smith, Oberlin, has been appointed coroner of Decatur county.

Sanitation and Hygiene Taught.—Dr. Samuel C. Emley, Lawrence, has been granted a leave of absence for two years by the University of Kansas, and will undertake a propaganda for sanitation and hygiene throughout the state, lecturing and showing a sanitary exhibit at all towns which make application.

State Medical Boards.—At a meeting of the State Board of Medical Examiners, held in Kansas City, June 12, Dr. Henry A. Dykes, Lebanon, was elected president, and Dr. Franklin P. Hatfield, Olathe, secretary.——At the meeting of the State Board of Health, in Topeka, June 2, Dr. Charles H. Lerrigo, Topeka, was re-elected president; and Dr. Samuel J. Crumbine, secretary.

Hospital Notes.—The trustees of Bethany Hospital have selected a site for the new building near Twelfth street and Central avenue, Kansas City, on which they expect to erect a hospital to cost $150,000, $35,000 of which has already been secured.——It is announced that $14,100 of the $15,000 required for the erection of the new Episcopal Hospital, Selma, has been secured.——The opening reception of the Sterling Hospital was held July 2.

MARYLAND

Hospital Notes.—The Government Naval Hospital, Annapolis, is to be enlarged by the erection of a modern dwelling to be occupied by the surgeon in charge; by two other dwellings for the junior medical officers, by quarters for the trained nurses, and a stable for the ambulance horses. There are also now under construction two wings to the main structure and a sun parlor.——The Children's Country Hospital at Catonsville, near Baltimore, for the treatment of crippled children, will be enlarged and incorporated, and pay as well as charity patients will be admitted. Dr. William S. Baer, Baltimore, is the physician in charge.

Personal.—Drs. W. Preston Miller, Hagerstown; H. Barton Jacobs, Baltimore, and Prof. J. Mark Baldwin, of the department of psychology, Johns Hopkins University, have sailed for Europe.——Dr. Bernard Brown, Jr., Annapolis, was operated on for appendicitis at University Hospital, Baltimore, June 30.——Dr. Robert P. Bay, superintendent of University Hospital, Baltimore, has been appointed a captain and assistant surgeon for the medical corps of the National Guard of Maryland, and assigned to duty with the Fifty Infantry, vice Dr. Gordon Wilson.——Dr. Thomas J. O'Donnell has been appointed police surgeon of Baltimore, vice Dr. Ransom R. Norris.——Dr. Joseph W. Holland, demonstrator of anatomy in the University of Maryland, has been appointed associate professor of anatomy.

Violation of the Food Laws.—In an interview, Dr. Marshall L. Price, Baltimore, secretary of the State Board of Health, says that preserves, catsups, peppers, mustards, and other spices, and many kinds of drugs are put up here and sold here, which could not cross the state line without violating the federal food and drugs act. Without proper legislation and means of enforcing such legislation, the homes of Maryland are helpless. The act of 1890 gives the board power to prevent adulteration and misbranding of foodstuffs, but only allows $2,500 to carry out the law. Ten thousand dollars would be needed annually for effective work, or else a provision to turn fines into the treasury of the board for its expenses. Only two inspectors can now be employed. There are 71 abattoirs alone in Baltimore. He says that cotton-seed oil comes into the state properly labeled, is here relabeled as pure olive oil and sold as such. There is no adulteration of canned vegetables.

Baltimore

Personal.—Dr. Charles D. Snyder has been appointed associate in physiology, Dr. Leonard G. Roundtree, instructor in experimental therapeutics. Dr. Arthur H. Koelker in chemistry, Dr. Herbert M. Evans in anatomy, and Dr. Milton G. Winternitz in pathology in Johns Hopkins Medical School.——Drs. William W. Ford and Ridgeley B. Warfield have gone to Europe.——Dr. DeWitte B. Casler, resident gynecologist at Johns Hopkins Hospital, has resigned.

University Appointments.—The following faculty appointments have been made at the University of Maryland School of Medicine: Dr. Samuel C. Chew, emeritus professor of medicine; Dr. Charles W. Mitchell, professor of medicine and diseases of children; Dr. Arthur M. Shipley, professor of therapeutics and surgical pathology; Dr. Harry Adler, clinical professor of medicine; Dr. Joseph W. Holland, associate professor and demonstrator of anatomy, and lecturer on clinical surgery; Dr. Howard J. Maldeis, lecturer on histology and embryology; Dr. William D. Scott, instructor in genitourinary surgery; Dr. J. Dawson Reeder, instructor in proctology; Dr. John F. Hawkins, instructor in neurology, and Dr. Frank S. Lynn, assistant demonstrator of anatomy, all of Baltimore.

MASSACHUSETTS

Personal.—Dr. Milton J. Rosenau, Washington, D. C., has been elected professor of hygiene and preventive medicine at Harvard Medical School.

A New Field in Tuberculosis Work.—Alexander M. Wilson, who succeeded Edward P. Bicknell as superintendent of the Chicago Bureau of Charities last fall, has resigned to undertake in Boston an open-air boarding house in which convalescent consumptives may attend to business while still living the outdoor life of the shack dweller.

Traced Fever to Milkman.—Investigation by the board of health of a number of cases of typhoid fever at Campello has traced their origin to the employé of a milk dealer who worked on the farm of the dealer for a week before being stricken with the disease. Dr. Frederick J. Ripley, Brockton, of the board, says that there is no epidemic, and that of the seven cases traced to the farm employé the last was reported June 20. There is no evidence of any further spread of the disease from this source.

MICHIGAN

Receives Loving Cup.—Dr. William D. Scott, Ithaca, was the guest of honor at a banquet tendered by the Gratiot County Medical Society, May 28, at which a silver loving cup was presented to Dr. Scott on behalf of the society, by Dr. Stiles Kennedy.

Laboratory Opened.—One of the most complete general laboratories in the country for original research work was opened June 16, at the Woman's Hospital and Infants' Home, Detroit. The laboratory is the gift of Mrs. Grace Whitney Hoff, who gave $1,000 for the installment of the laboratory, and who has provided an endowment of $500 a year for five years for its maintenance. Dr. Carl S. Oakman is to be pathologist in charge of the laboratory, Dr. Willard H. Hutchings is bacteriologist, and Dr. Joseph Sill, consulting bacteriologist.

MISSOURI

Asylum Superintendent Removed.—It is announced that Dr. William F. Kuhn, superintendent of State Hospital No. 2, St. Joseph, was summarily removed from his position by the board of managers, July 1, and that Dr. Frederick A. Patterson has been appointed acting superintendent to fill the temporary vacancy.

Personal.—Dr. Franklin H. Broyles, Bethany, has been appointed a member of the pension board and local surgeon to the Burlington System.——Dr. Robert E. Keaney, De Soto, has been elected superintendent of State Hospital for the Insane No. 4, Farmington, and Drs. Henry Lloyd and Frank S. Weber, St. Louis, have been appointed assistant physicians. ——Dr. and Mrs. James E. Logan, Kansas City, sail for Europe July 20.

Public Health Legislation Favored by Senate.—Dr. William S. Allee, Olean, chairman of the Committee on Eleemosynary Institutions and Public Health in the State Senate, calls attention to an error in the news from Missouri in the issue of May 1. It was there stated that "House Bill 456, to eliminate hospitals and poor houses as sources of supply for anatomic material, thereby reducing the latter four-fifths, has passed the senate and is now in the hands of the House Committee on Public Health and Legislation." Dr. Allee states that the bill passed the House, was sent to the Senate, referred to the committee of which he was chairman, which reported the bill adversely, and it was not voted on in the Senate. A companion bill introduced in the Senate was killed by an adverse report from the same committee.

St. Louis

Date of Next Annual Session.—The next annual session of the American Medical Association will be held in St. Louis, June 7 to 10, 1910.

New Medical Buildings.—The work on the new buildings for the medical department of Washington University will begin in a short time and the buildings will be ready for occupancy in the fall of 1910. They will be occupied by the classes of the first and second years.

Personal.—Dr. Cleveland H. Shutt has been reappointed assistant superintendent at the City Hospital.——Dr. Frederick G. A. Bardenheier has returned from Europe.——Drs. Bransford Lewis and Charles H. Hughes have gone to Europe.

NEBRASKA

State Board of Health Organized.—The new State Board of Health organized at Lincoln, July 3, and elected the following officers: President, Dr. Clifford P. Fall, Beatrice; vice-president, Dr. Herschell B. Cummins, Seward; secretary, Dr. E. Arthur Carr, Lincoln, and treasurer, Dr. Archibald L. Muirhead, Omaha.

NEW JERSEY

Rooms Endowed at Seashore Home.—Two rooms have just been endowed at the Children's Seashore Home, Atlantic City, one by Robert L. Montgomery to be known as the Hope Montgomery Room, the other by Mrs. J. Campbell Harris, in memory of her father, the late Thomas H. Powers.

State Board Election.—At the annual meeting of the State Board of Medical Examiners, held at Newark, July 6, the following officers were elected: President, Dr. Charles A. Groves, East Orange; secretary, Dr. Edmund L. B. Godfrey, Camden, and treasurer, Dr. Armin Uebelacker, Morristown.

Day Camp for Tuberculosis to Be Opened.—Orange Camp for tubercular patients, located near Orange Memorial Hospital, is to be opened this month. For the present two tents will be used. Dr. Ralph H. Hunt is to be at the head of the medical staff and the visiting nurse for the Anti-Tuberculosis Society of the Oranges will devote her entire time to the camp, which will accommodate from six to eight patients.

NEW YORK

Personal.—Dr. Henry L. Elsner, Syracuse, has gone to *Europe.*

Research Laboratory.—Plans have been filed for a laboratory for private physiologic research to be erected on the roof of the north wing of the College of Physicians and Surgeons. There will be a dozen rooms for the various branches of research work and two rooms for operating experiments.

Summer Resorts Inspected.—Inspectors of the state department of health have begun their annual inspection of the various summer resorts in the state for the purpose of gathering information relative to the sanitary condition of those places. When insanitary conditions are reported notice is served on the owners and necessary changes are ordered.

Tuberculosis Hospital Has Financial Troubles.—The Fiscal Supervisor of State Charities, sent to Raybrook to investigate the alleged shortage of accounts at the State Tuberculosis Hospital, is said to have reported that the books show alterations aggregating $9,856. Attention was first called to laxity of management last January and a report was sent to the governor at that time.

More Money for Hospitals.—The will of the late Mrs. Maria Tailer, just filed for probate, bequeaths $25,000 to the New York University and Bellevue Hospital College, to be used for the dispensary, in memory of William H. Tailer. The Children's Aid Society and the New York Orthopedic Dispensary and Hospital each receive $5,000. The Home for Incurables also receives $7,500 for the endowment of a bed in perpetuity to be known as the William Watson bed, in memory of the father of the testatrix.

Few Children Have Sound Teeth.—The Health Department has just completed the examination of 500 children between the ages of fourteen and sixteen years who have received their "mercantile papers." Of these 486 were found to have unsound teeth. There were 2,808 unsound teeth discovered, of which 2,551 might, with proper treatment, be saved. Only 25 of the 500 children had ever had dental treatment. The Children's Aid Society has on foot a movement to establish dental clinics in the public schools. Physical examinations of school children were carried on by the Health Department from September 1, 1908, to March 31, 1909, and during this time 386,744 children were examined. Of this number 290,167 were found to be in need of treatment of a general character, and 206,290 had defective teeth.

New York City

Off for Europe.—Dr. and Mrs. Albert H. Ely, Dr. and Mrs. Daniel A. Harrison, Dr. William B. Coley, Dr. and Mrs. LeGrand N. Denslow, Drs. Louis L. Seaman, Meyer L. Rhein, Edward A. Bogue and Charles G. Kerley have sailed for Europe.

High Mortality from Sunstroke.—There were 32 deaths from sunstroke during the week ended July 3, more than during the last week in June for any other recent year. The death rate for the above mentioned week was 16.48 against 15.70 for the corresponding week of last year. There was a slight increase in the number of deaths from heart disease, pneumonia, tuberculosis, Bright's disease, diphtheria, measles and typhoid fever.

West Side Ambulance Service.—Property at 364 and 366 West Fiftieth street has been purchased and will be remodeled into a house of relief for ambulance service for the upper West Side under control of Bellevue and the Allied Hospitals. This step has been made possible by the appropriation of $32,300 by the Board of Estimate and Apportionment. Two automobile ambulances, a staff of physicians, and six or eight beds will complete the relief station.

OHIO

New Tuberculosis Hospital.—The commissioners of Warren county have purchased the Rudy farm of 86 acres for $6,500 as a site for a county tuberculosis hospital.

Hospital Staff Election.—The medical and surgical staff of St. Luke's Hospital, Cleveland, met for organization June 22, and elected the following officers: President, Dr. Joseph F. Hobson; vice-president, Dr. Maurice D. Stepp; secretary, Dr. Edward S. Lauder; executive committee, Drs. Milton J. Lichty, Samuel W. Kelley and Joseph F. Hobson, and examining committee, Drs. Roland E. Skeel and John N. Lenker.

PENNSYLVANIA

Philadelphia

Home for Infants Donated.—Mr. and Mrs. Harry Miller have donated a house and lot 25x140 feet to be used as an infants' ward and nursery to the Hebrew Sheltering Home and Day Nursery. The building is to be known as the Mrs. Harry Miller ward.

Mortality Decrease.—The report of the Department of Public Health of the first six months of this year shows that 13,264 deaths were reported, a decrease of 677 from the corresponding period of last year. The death rate for the first six months of 1908 was 18.19 per 1,000 of population, but for the same period of this year the death rate was 16.94 per 1,000.

Personal.—Drs. M. H. Cryer, Wendell Reber, J. H. Musser, Edward Martin, F. H. Dercum, Theodore H. Weisenburg, Charles P. Grayson, George C. Stout, Arthur V. Meigs, Melvin M. Franklin and Charles F. W. Plass are among those who will spend part of the summer in Europe.——The University of Pennsylvania has conferred the degree of LL.D. on Dr. Charles B. Penrose.

Hospital Secures Property.—The officials of the Children's Hospital have secured a half a block of land with a frontage of more than 200 feet on Bainbridge and Fitzwater streets and nearly 350 feet on Eighteenth street. The authorities plan to erect as soon as possible a modern steel and concrete fireproof building, but until funds are available for this purpose the lot will be converted into a playground for the benefit of the children in the southwestern part of the city. Since the foundation of the Children's Hospital in 1855 the institution has moved three times, in each instance obtaining or constructing a larger building.

WISCONSIN

Personal.—Dr. George V. I. Brown, Milwaukee, has gone to Europe.——Dr. William H. Ellis has been elected health officer of Barron.

Decision Against Medical Board.—Raymond Puddicombe, a "chiropractor" of Beloit, charged with practicing medicine, surgery, and osteopathic manipulation, was acquitted by the jury, May 27, and discharged. The action was brought by the State Board of Medical Examiners. The case will probably be appealed.

District Election.—At the annual meeting of the Ninth Councilor District Medical Society, held in Stevens Point, Dr. David T. Jones, Wausau, was elected president; Dr. J. Willis Rockwell, Grand Rapids, secretary; and Dr. Ole T. Hougen, Grand Rapids, councilor.

Antituberculosis Association Organized.—On June 1, the Madison Antituberculosis Association was organized to establish a hospital or sanatorium for tuberculosis, to better hygienic conditions, to promote the recovery of tuberculosis persons, and to assist in educating the public. Dr. Charles H. Hall was elected treasurer of the association.

State Society Elects.—At the sixty-third annual meeting of the Wisconsin State Medical Society, held in Madison, June 29 to July 2, the following officers were elected: President, Dr. Edward Evans, LaCrosse; vice-presidents, Drs. John S. Walbridge, Berlin; George V. Mears, Fond du Lac, and Truman E. Loupe, Eureka; secretary, Dr. Charles S. Sheldon, Madison (re-elected); treasurer, Dr. Sidney S. Hall, Ripon; delegate to the American Medical Association, Dr. Lewis F. Bennett, Beloit; alternate, Dr. Frank S. Wiley, Fond du Lac; committee to name members for State Board of Health, Drs. Warren B. Hill, Milwaukee; Thomas H. Hay, Stevens Point, and Charles R. Bardeen, Madison; committee on tuberculosis, Dr. Cornelius A. Harper and Mazyck P. Ravenel, Madison, and Drs. Gilbert E. Seaman, J. M. Bethel, and Charles H. Stoddard, Milwaukee; delegate to the Council on Medical Education of the American Medical Association, Dr. Warren B. Hill, Milwaukee, and delegate to the National Legislative Council of the American Medical Association, Dr. Byron M. Caples, Waukesha. By unanimous vote, the society refused to sanction the vasectomy of confirmed criminals in the state.

GENERAL NEWS AND COMMENT

Philippine Medical Association Committees.—President Benito Valdez of the Philippine Medical Association has appointed the following committees: Scientific work—Drs. William E. Musgrave, U. S. P. H. and M.-H. Service, Manila, and Edwin D. Kilbourn, U. S. Army; public policy and legislation—Drs. A. J. McLaughlin, Henry D. Kneedler, Manila, and Fernando Calderon, Manila; publications—Drs. Philip E. Garrison, U. S. Navy, and James M. Phalen, U. S. Army; and medical education—Drs. Paul C. Freer, Philip K. Gilman and Manuel Guerrero.

The McCosh Memorial.—The *Andrew J. McCosh*, a yawl fitted with auxiliary engines, given by Princeton men throughout the world as a memorial to the late Dr. Andrew J. McCosh, New York City, as a gift to the Labrador Medical Mission, of which Dr. Wilfred T. Grenfell is superintendent, sailed for its new destination June 29.

Health of San Juan.—The report of the bureau of health of San Juan, Porto Rico, for the fiscal year 1907-1908, by Dr. Tomas Vazquez, director of health, urges strongly the creation of the position of sanitary engineer. He calls attention to the fact that no money has been appropriated for the work of emergencies, such as epidemics. The sanitary condition of the island is unsatisfactory, owing in a great measure to the habitual indifference of authorities and individuals so far as hygiene is concerned, this being due to ignorance, and to be remedied only by the hygienic education of the people. The death rate per 1,000 for the fiscal year was 22.97 as opposed to 26.17 for the previous year. The mortality among children below one year of age was 48.18 per cent., and of children below the age of two, 34.10 per cent. This enormous mortality is due chiefly to artificial nursing and to the adulteration of milk. Duringthe year, there were admitted to the sanatorium of the Antituberculosis League of Porto Rico at Seboruco, near San Juan, 68 patients, of whom 9 were discharged cured and 35 improved, and 14 died, 10 remaining in the hospital at the close of the year.

Conference on Infant Mortality.—A conference on the prevention of infant mortality will be held in New Haven, November 11 and 12, under the auspices of the American Academy of Medicine. The session on medical prevention will be presided over by Dr. J. H. Mason Knox, Jr., Baltimore, with Dr. Richard A. Urquhart as secretary. The session on philanthropic prevention will have Dr. John T. Devine, New York City, as chairman, and Miss Lilian Brandt, secretary. Mr. Homer Folks, secretary of the New York State Charities' Aid Association, will be chairman and Miss Mary Vida Clark, New York City, secretary of the session on institutional prevention, and Prof. C. E. A. Winslow will preside over the session on educational prevention, with Henry I. Bowditch, Boston, as secretary. The American Academy of Medicine has decided to raise a fund for the publicity and promotion of the conference, and intends to agitate and exploit the project by both the medical and lay press, in order that the conference may be aided to do its work effectively, that the activities may continue by the promotion of a national society, composed of both professional men and laymen.

LONDON LETTER

(From Our Regular Correspondent)

London, July 3, 1909.

The Financial Prospects of Medicine

For many years the physicians of this country have had to lament the fact that the practice of medicine is by no means as lucrative as it used to be and that the incomes now earned are inadequate. Many causes—overcrowding of the profession, improved hygienic conditions, and the springing up in the large towns and cities of a class of cheap physicians ("dispensary doctors") who run "cash practices" at ridiculously low fees, prescribing chemists, and the competition of the hospitals, to which there is an increasing tendency on the part of the public to resort—have been assigned for this. The *British Medical Journal* has recently published a remarkable investigation which for the first time gives accurate statistics on the question of the overcrowding of the profession. As has been reported from time to time in The Journal *the annual increase of the profession has shown in the last few* years a continuous fall. But no information was forthcoming as to whether the proportion of physicians to the general population was increasing at the same time, and it was impossible to say whether the overcrowding was on the increase. By taking the estimated population of the country from year to year, calculated by logarithms on the basis of the decennial increase ascertained by the census, and by taking the number of physicians in practice at the middle of each year as a mean between the numbers on the Medical Directory (which is issued at the beginning of each year) the *British Medical Journal* has furnished a reliable calculation on the point. The results are most instructive. They show that in 1881 the population of England and Wales was 26,000,000, and the number of physicians in practice was 15,308, a ratio of population to physicians of 1,700 to 1. *In the following years this* ratio shows a gradual fall, reaching 1,516 in 1891 and 1,381 in 1901. Then a gradual rise commenced, the figures being in the last seven years (1902-1908) 1,384, 1,389, 1,393, 1,393, 1,396, 1,401, 1,407. The increase in these years may be explained by the fact that in 1890 the length of the medical curriculum was increased from four to five years, thus becoming more arduous and more expensive. But the increasing pressure of overcrowding must also be a factor. It is unfortunate that the *British Medical Journal* did not push the inquiry a stage farther and instead of stopping at the number of possible patients per medico, investigate the question of the number of illnesses to each physician. As a whole the profession is in much inferior financial position to what it was twenty years ago. It has been calculated that the average *annual income of the physician does not exceed $1,000.*

Health of the Navy

The health of the British navy has shown a steady improvement from year to year, which is due largely to improved hygiene. Not only general sanitation, but food and cookery have been greatly improved. In 1907, the report for which has recently been issued, there were only 3 deaths *from heat stroke, and malaria declined 50 per cent.* The tracing of Malta fever to the milk of the goat by the commission presided over by Colonel Bruce of the Royal Army Medical Corps has eliminated a prolific cause of illness in the Mediterranean. Venereal diseases still take a great toll. The total number of days' service lost from this amounted in 1907 to 329,326, *and the average daily number of men rendered in*effective amounted to 1,000. The total death rate was lower than it has ever been before. In 1858 the death rate from all causes amounted to 25.8, and from disease alone to 22 per 1,000 men; in 1907 it had declined to 3.35 from all causes and 2.26 from disease.

PARIS LETTER

(From Our Regular Correspondent)

Paris, July 1, 1909.

Professor Pozzi's Report on the Hospitals and Surgeons of the United States

Dr. Pozzi, professor of clinical gynecology in the College of Medicine of Paris, who recently went to America to represent France at the centenary of ovariotomy in the United States (The Journal, April 24, 1909, lii, 1344) has just made to the *Société de l'internat. des hôpitaux de Paris* a report of his impressions gathered in visiting the hospitals of the American cities. He says that American surgeons do not know France well enough and that French surgeons do not know America well enough. The former go to Germany to finish their studies; the French do not go to America, not only because of the long voyage, but also because of the prejudice that American surgeons are very rash charlatans. Pozzi declares that he has been struck by the science and skill of his transatlantic colleagues.

He regretted that all European architects, and in particular French architects, do not go to America to study hospital construction. Among other useful hints they would be able especially to take lessons on the art, almost unknown among us, of methodical and permanent ventilation of the rooms, large or small, thanks to which an equitable temperature and a very great purity of atmosphere are maintained everywhere. After a number of other improvements that he noticed in American hospitals, Pozzi mentioned particularly the autonomy of these hospitals, which he considers their most distinctive trait. In Paris the hospital is a mere dependency of an immense administration, while in the United States almost all the hospitals are private foundations, sometimes made possible by a religious or a philanthropic association, sometimes by private donation so that each hospital belongs to a group of citizens who take pride in having model establishments. There is much more interest taken in hospitals in America than in France. Among us the excessive administrative centralization and the development of the powers of the paternalistic state have accustomed us to hand over to the government the care of all the public services, among which we include charity. That is why donations to hospitals, so frequent in America, are so rare in France.

Professor Pozzi is especially enthusiastic over the personnel of the nursing staffs of the American hospitals. Neither in Germany or in England—and still less in France—is there anything to compare with the work done by the American nurses and the orderlies. This is because of the social environment from which the nurses are recruited; while in France the *surveillante* comes from the inferior classes, in the United States the nurse is a lady. She is conscious of her value; she is on an equality with every one, the director, the physicians, the patients. An American nurse has a pecuniary situation three or four times better than that of the *surveillantes* in our hospitals since in Paris a *surveillante en chef* (head nurse) earns only 80 france (16 dollars) a month.

Professor Pozzi criticizes some things in the organization of American hospitals, especially the arrangement in regard to paying patients. He was astonished to see the largest space in the hospitals given over to rooms for paying patients. Certain hospitals are entirely devoted to paying patients. This criticism seems to me unjustified; for, although this condition is an anomaly among us, since our hospitals belong to the public charities, it is perfectly natural in the United States, since American hospitals are most of them of private foundation.

Professor Pozzi then discussed the question whether American surgeons are on the same level with European surgeons. I give his opinion without inquiring whether his short stay in America entitled him to it. "The average American surgeons are not equal to our surgeons, owing to the imperfect course of study which the former follow, and the ease with which they obtain diplomas, but above these there is a very respectable class. At the summit of the profession are surgeons who yield in no respect to the *élite* in England, Germany and France."

What Pozzi criticizes especially is the fact that physicians and surgeons are chosen by the managing boards of hospitals, composed of excellent people, but scarcely competent to make such selections. Social and family connections have great influence in the choice of physicians and surgeons. Pozzi therefore declares that he prefers our system of the *concours* in spite of the recent criticism on it.

He then spoke of the "reprehensible audacity" and the "charlatanism" of American surgeons, and the extravagant articles on surgeons published by American journals. But Pozzi appears to me to ignore the fact that this shameless charlatanism is severely reprobated by the better part of the medical profession of the United States, a fact which is sufficiently indicated by the systematic and vigorous campaign that The Journal is carrying on against every class of charlatans. For my part, I could wish most earnestly that there were in France a medical journal performing the same meritorious task as energetically.

Last, Pozzi spoke of the surgical work of the brothers Mayo. In Pozzi's view the great surgical center is not New York, Chicago, or Baltimore, or any other great city of this immense territory, but Rochester, Minn. "I have nowhere had," said he, "a more intense realization of American energy than in that little peaceful town of Rochester. Rochester is indeed a surgical factory of immense output, comparable with the great American industrial manufactories."

Election of Dr. Capitan to the Academy of Medicine

In its session of June 29, the Academy of Medicine elected Dr. Capitan to membership to replace Dr. Blache, who died last December. Dr. Capitan has for a long time specialized in the study of prehistoric anthropology. He has been since 1898 professor at the School of Anthropology, where he succeeded Dr. Gabriel de Mortilet. Last year he was given the newly created chair for the study of American antiquities at the College of France.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 26, 1909.

Personals

At the end of this semester Professor Schmidt-Rimpler, the well-known director of the eye clinic at Halle, will resign his position. His successor is Prof. E. v. Hippel of Heidelberg.

A department of animal chemistry has been lately established in the physiologic institute of the agricultural college of this city, whose director is the noted physiologist, Professor Zuntz. Professor Neuberg, hitherto assistant of Professor Salkowski in the chemical department of our pathologic institute, has assumed the direction of the new department.

Dr. Langerhans died a few days ago in Berlin at the age of 89. The deceased was a friend of Virchow and was closely associated with him in political and municipal activity. He was for many years a member of the Reichstag and of the Prussian house of delegates (Abgeordnetenhaus). In 1848 in connection with many noted men, especially Carl Schurz, who later reached so high a position among you, he took part in the struggle for liberty. Langerhans was also from 1893 to 1907 the president of the Berlin city council. He was the successor of Dr. Stryck, who was also a physician. His services to this city were recognized by the granting of the freedom of the city, an honor which few men besides him have reached (Bismarck, Robert Koch, etc.).

A New Municipal Hospital

At Buch, a manorial estate belonging to the city, situated in a suburb of Berlin, a hospital for old people was opened a few weeks ago. Already on the estate are a large insane asylum of about 2,000 beds and a home for pulmonary invalids. The new hospital has about 1,500 beds. The cost of building was about $1,560,000 (6,500,000 marks). There are in the city of Berlin altogether 2,286 beds for invalids which cost annually $271,680 (1,132,000 marks). The insane asylum at Buch (the third in the city) is to have a second addition of a ward for 75 patients. According to the plans the cost will be about $2,300 (9,400 marks) per head. The great expense is occasioned chiefly by the large air space of 1,600 cubic feet (50 cbm.) for each patient.

First German Congress for the Care of Infants

The first German congress for the care of infants convened in Dresden in the middle of June. Three subjects were taken up: 1. The present status of measures for reduction of infantile mortality and promotion of infantile hygiene (*Säuglingsfürsorge*). 2. A report on maternity institutes and homes for puerperæ and infants, as a means of reducing infantile mortality. 3. Report on the measures for encouragement of lactation. On the first subject I have frequently written so that I may omit it. In the second report the first speaker, Privy Counselor Dietrich of the ministry of education (*Kultusministerium*), emphasized the necessity of greater protection to pregnant and lying-in women. Most of the lying-in hospitals discharge the mother and child frequently only six days after delivery and in consequence invalidism of the mother as well as the death of the child is often occasioned. It is therefore necessary to increase the number of homes for lying-in women and infant asylums. The mother and child should remain in the asylum at least four weeks after delivery. The second speaker Professor Salge of Göttingen advocated among other things a nurses' protective law. A mother should not be allowed to undertake service as a wet nurse before the expiration of three months after delivery. The third speaker, Prof. v. Franqué of Giessen, reported that 63,000 children in Germany die before birth and 80,000 die in the first fifteen days of life. The large number of still births which is greater in Germany than in many other countries is attributable mainly to lack of care during pregnancy and imperfect hygiene during delivery. It is recognized that lack of care of the pregnant woman leads to imperfect development of the child; such children often weigh a pound (500 gms.) less than normal. About 10,000 women in Germany die annually in childbed; 50,000 suffer from puerperal fever and are thereby prevented from suckling their children. Sixty thousand infants are in this way deprived of their natural nourishment by injury at birth. For this reason the extension of institutional care to all who need it should be demanded. The indications for receiving these persons into institutions are both social and medical. Among the first is to be reckoned illegitimacy as well as the delivery of all mothers who have at their disposal only one room. In a medical way the admission is indicated not only for cases which require operative treatment, but because the timely reception will often avoid the necessity of operation. From this point of view the institutions would need to provide for about 210,000 births, i. e., the number of institutions at present available for this purpose would need to be multiplied fivefold. The lying-in hospital has also the greatest significance for the infants. About 1.4 per cent. of infants die from infection of the umbilicus; while in all of Giessen 3.4 per cent. of infants died from this infection, the mortality in the Giessen maternity was only half as great. Professor v. Franqué demands that the unmarried mother shall remain in the lying-in home three months, for a three months' nursing is requisite, if the mortality of infants is to be reduced. In Germany there are only ten institutions which keep the mothers long enough before and after delivery. In the third report the importance of suckling for diminishing the mortality of infants was again thoroughly discussed. The introduction of nursing premiums and the insurance of motherhood were recommended. I have repeatedly referred to these matters.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, June 26, 1909.

Increase in Consumption of Meat

In Vienna the general consumption of meat is steadily increasing, although last year fruit and vegetables were to be had nearly for the asking. According to the statistical report of the market supervision board, the average yearly consumption of meat was in 1908 76.4 kilos (170 pounds) per head; in 1905 it was 74.6 kilos (166 pounds); in 1900 it was 72 kilos (160 pounds); and in 1895 it was only 70 kilos (156 pounds). The chief kind of meat used was pork and beef. The increase of meat consumption is due to two factors: increase of national wealth and increase of the working part of the population. No definite influence of the increased meat consumption on health could be ascertained unless the fall in mortality be ascribed to it.

Passing of the Phosphorus Bill

The phosphorus bill prohibiting the use of the poisonous kind of phosphorus in the manufacture of matches (noticed in THE JOURNAL, April 24, 1909, lii, 1345) has been passed and will soon become law in Austria. In 1911 the same law will be valid for both parts of Austria-Hungary. The passing of the bill is due mainly to the incessant work of medical men. The only drawback of the bill is the fact that a certain period, estimated at two years, will be permitted to the factories to adapt their manufacturing process to the new requirements.

The Boycotting of Medical Appointments by Medical Organizations

The increasing influence of medical organizations in this country has been attested recently by municipal decisions which have tried to annul the resolution of the *Reichsverband der Oesterreichischen Aerzteorganisationen* (Union of Austrian Medical Organizations) on the ground that by boycotting a medical appointment the union exceeded its rights. The union then explained its attitude in a memorandum addressed to the local authorities, and to the ministry of justice and stated the conditions under which it would declare a boycott. A boycott is merely an appeal to all medical men to abstain from accepting a certain post; it is an appeal from colleagues to colleagues, and would be issued only under three conditions: (1) when a practitioner had been dismissed from his appointment without sufficient reason; (2) when practitioners have been dismissed or have given up an appointment on account of a dispute as regards rate of payment; (3) when there were differences of opinion between doctors and corporations on the ground of ethics and principles. In several instances the union has declared boycotts and in two instances the boycotted corporations have gone to law against the union. The superior court finally declared that a boycott could not be declared, as the union had no power to bind any one of its members or any practitioner at all. But a request could not be stopped, and thus in future the boycott might be disguised under the shape of an urgent request. The union has accepted the hint and the *Aerztekammern* (Medical Councils) have unanimously declared their approval of the attitude of the union, and have resolved to become members of the union corporatively. Thus the attack on medical concord has ended with a signal victory by the practitioners against official narrow-mindedness. The union now comprises about 80 per cent. of all practitioners of Austria, and as agitation is very vigorous we may soon have all national and racial differences covered, in this body at least, by a common interest.

Pharmacology

Fluoroform

To the Editor:—Please give the following information regarding fluoroform: 1, The chemical composition; 2, strength of the solution and dosage used in the treatment of whooping cough; 3, results as compared with bromoform; 4, name of the manufacturer; 5, references to any recent literature in regard to its use in a large number of cases. W. E. H.

ANSWER.—1. Fluoroform is a substance analogous to chloroform in which three atoms of flourin have replaced the three atoms of chlorin; formula CHF_3.

2. It is on the market in the form of an aqueous solution of the gas purporting to contain 2.8 per cent. by volume, which amounts to 0.00715 per cent. by weight. The dosage of this solution is said to be from 5 to 10 gm. and with adults as high as 30 gm. per diem given in teaspoonful doses.

3. It is claimed by some to give better results than bromoform.

4. German patents for the preparation are held by Valentiner & Schwarz, and the solution is marketed in this country under the name of fluoroformol, under the agency of C. Bischoff & Co., New York.

5. The treatment of pertussis by fluoroform is described by Paul T. Tissier (*International Clinics*, Vol. III, Eighteenth Series, 1908). At the meeting of the chemical society of France, May 27, 1908, V. Auger (*Bull. de la Soc. chim. de France*, 5, 7 to 11) claimed that the fluoroform water manufactured by Valentiner & Schwarz, as found in the market, contained no fluoroform, but that the gas, approximately 2.24 per cent. by volume, consisted essentially of air. He states that of the two patents, which the manufacturers hold, the first (which has expired) will produce fluoroform if the materials are absolutely dry. These materials are silver fluorid, iodoform and sand. There are, however, considerable difficulties in managing the reaction if large quantities of the substance are to be prepared. On the other hand, the second method which employs a watery solution of silver fluorid acting on iodoform in a specially constructed apparatus, according to Meslan's experiments, produces no fluoroform, but gives off a mixture of 95 per cent. carbon monoxid (CO) and 5 per cent. of carbon dioxid (CO_2). This patent is still in force. It would appear from these experiments that the manufacturers have given up the first—and efficient—process, and resorted to the second, which supplies to the patient a harmless liquid consisting of aërated water. Valentiner & Schwarz contend that the existence of carbon monoxid and carbon dioxid in their fluoroform water is impossible because the gas given off is washed in soda lye, baryta water and solution of cuprous chlorid before dissolving it in water. They say that the construction of their apparatus excludes the presence of air. They admit that in partially filled bottles traces of carbonic acid might form in the course of time.

In consideration of the uncertainty as to the method and results of manufacture of this remedy, it is evident that no certain conclusions can be drawn from clinical use at the present time. Tissier especially emphasizes the non-toxic and palatable character of the preparation which he used, which he might well do, if, as appears from analysis of the product on the market, he was giving practically nothing but water.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

PIN-WORMS (OXYURIS VERMICULARIS) IN THE APPENDIX

To the Editor:—I wish to place on record the finding of pin-worms (*Oxyuris vermicularis*) in the appendix of a female child, aged 11 years. The patient had some pain, tenderness, rigidity of rectus, temperature of 103° and pulse 120. Operation was done in twenty-four hours from onset and the appendix removed. There were no gross changes beyond marked congestion of distal end. When the appendix was opened, a ball of twelve pin-worms was found with fecal matter. Recovery was perfect; usual treatment for pin-worms failed to reveal any more during her ten days' stay in hospital. M. ALLEN, M.D., St. Johnsbury, Vt.

COMMENT:—Other similar cases recently reported are:

Hall, E. A.: *Oxyuris vermicularis* in the Appendix, *Dominion Med. Month.*, May, 1903.

Wagener, O.: *Oxyuris vermicularis* in the Intestinal Wall, *Deutsch. Arch. f. klin. Med.*, lxxxi, Nos. 3-4, 1904. Id. *Virchow's Arch.*, clxxxii, No. 1, 1906.

Hippius, A. and Lewinson, J.: *Oxyuris* and Appendix, *Deutsch. med. Wchnschr.*, Oct. 24, 1907.

Wakefield, R. W.: *Oxyuris vermicularis* Found in the Vermiform Appendix, THE JOURNAL A. M. A., June 6, 1908, p. 1904.

Thrush, M. C.: Appendicitis Due to Presence of *Oxyuris vermicularis*, *Med. Rec.*, New York, Dec. 28, 1908.

OPERATIONS ON THE AGED—DATA REQUESTED

To the Editor:—Having lately operated on a patient eighty years old for an ovarian cyst holding about three gallons of fluid I am anxious to know if any patient older than this one has been successfully operated on. I should be glad to have reports from any who have operated on a patient 70 years of age and over. Report age of patient, married or single, number of children, age of youngest, age at menopause, and results of operation.

R. R. KIME, M.D.,
714 English-American Bldg., Atlanta, Ga.

The Public Service

Navy Changes

Changes for the week ended July 10, 1909:

Gatewood, J. D., medical inspector, detached from the Naval Medical School, Washington, D. C., July 15, and ordered to duty on board the *Tennessee* as fleet surgeon of the Pacific Fleet.

Byrnes, J. C., medical inspector, detached from duty on board the *Tennessee* as fleet surgeon of the Pacific Fleet and ordered home to await orders.

Law, H. L., surgeon, retired, detached from the Naval Recruiting Station, Boston, Mass., and ordered home.

Payne, J. H., Jr., P. A. surgeon, ordered to the Naval Recruiting Station, Boston, Mass.

Rogan, F. M., surgeon, commissioned surgeon from Sept. 2, 1908.

Butler, C. St. J., surgeon, commissioned surgeon from Sept. 19, 1908.

Grayson, C. T., P. A. surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Bass, J. A., acting asst.-surgeon, detached from duty at the Naval Hospital, Philadelphia, Pa., and ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Bucher, W. H., surgeon, transferred to the retired list from June 11, 1909, in conformity with the provisions of Section 1453, Revised Statutes.

French, G. R. W., acting asst.-surgeon, ordered to the Naval Hospital, Narragansett Bay, R. I.

Heneberger, L. G., medical director, detached from command of the Naval Hospital, Newport, R. I., July 15, ordered home and granted sick leave for two months.

Leach, P., medical inspector, detached from the Marine Recruiting Station, New York, N. Y., and ordered to command the Naval Hospital, Newport, R. I.

Bucher, W. H., surgeon, retired, ordered home when discharged from treatment at the Naval Hospital, Mare Island, Cal.

Peck, A. E., P. A. surgeon, unexpired portion of leave revoked, ordered to the Marine Recruiting Station, New York, N. Y.

Garrison, P. E., asst.-surgeon, detached from duty as medical zoologist for the Bureau of Science, Philippine Islands, and ordered to Washington, via the *Buffalo*, for examination for promotion.

Curl, H. C., surgeon, detached from the *Buffalo* and ordered to the Naval Hospital, Canacao, P. I.

Hoyt, R. E., P. A. surgeon, detached from the *Chattanooga* and ordered to the Naval Hospital, Mare Island, Cal., for treatment.

Downey, J. O., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Chattanooga*.

Allen, D. G., asst.-surgeon, detached from the *Buffalo* and ordered to the *Chattanooga*, temporarily.

Public Health and Marine-Hospital Service

List of changes for the week ended July 7:

Kerr, J. W., asst. surgeon-general, granted 21 days' leave of absence from July 12, 1909.

McIntosh, W. P., surgeon, granted 2 days' leave of absence from July 5, 1909. Paragraph 189, Service Regulations.

Clark, T., P. A. surgeon, granted 7 days' leave of absence from June 11, 1909. Paragraph 191, Service Regulations.

Foster, M. H., P. A. surgeon, granted 1 day's leave of absence, June 23, 1909. Paragraph 191 Service Regulations.

Ramus, Carl, P. A. surgeon, granted 1 day's leave of absence, June 10, 1909. Paragraph 191, Service Regulations.

Holt, John M., P. A. surgeon, leave of absence granted May 21, 1909 for one month from July 5, 1909, amended to read, one month from July 26, 1909.

Hart, Lasher, asst.-surgeon, granted 7 days' leave of absence from July 1, 1909.

Preble, Paul, asst.-surgeon, directed to report at Bureau on special temporary duty.

Dynan, N. J., acting asst.-surgeon; granted 1 day's leave of absence, June 30, 1909. Paragraph 210, Service Regulations.

Goldsborough, B. W., acting asst.-surgeon, granted 2 days' leave of absence from June 28, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 1 day's leave of absence in June, 1909. Paragraph 210, Service Regulations.

Rodman, John C., acting asst.-surgeon, granted 7 days' extension of leave of absence from June 17, 1909, on account of sickness.

Walker, T. Dyson, acting asst.-surgeon, granted 4 days' leave of absence from July 6, 1909.

Ward, J. La Bruce, acting asst.-surgeon, granted 10 days, extension of leave of absence from June 15, 1909, on account of sickness.

Wetmore, W. O., acting asst.-surgeon, granted 1 day's leave of absence, June 10, 1909, and 5 days' leave of absence from June 25, 1909. Paragraph 210, Service Regulations.

Wilson, J. G., acting asst.-surgeon, granted 5 days' leave of absence from July 1, 1909. Paragraph 210, Service Regulations.

RESIGNATION

Assistant Surgeon Lasher Hart, resignation accepted by the President to take effect July 7, 1909.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the the week ended July 9, 1909:

SMALLPOX—UNITED STATES

Georgia: Macon, June 20-27, 2 cases.

Illinois: Chicago, June 19-26, 2 cases; Danville, June 20-27, 3 cases.

Indiana: Indianapolis, June 13-20, 1 case; Muncie, June 19-26, 1 case; South Bend, 2 cases.

Kansas: Kansas City, June 19-26, 5 cases.

Kentucky: Covington, June 19-26, 2 cases; Lexington, 5 cases; Paducah, 2 cases.

Louisiana: New Orleans, June 19-26, 1 case.

Michigan: Grand Rapids, June 19-26, 1 case.

Minnesota: Duluth, June 18-25, 2 cases.

Missouri: Kansas City, June 19-26, 1 case; St. Joseph, May 29-June 5, 3 cases, June 7-14, 1 case.

Montana: Butte, June 18-24, 2 cases.

Tennessee: Knoxville, June 19-26, 4 cases.

Texas: Galveston, June 18-25, 1 case.

Virginia: Lynchburg, June 19-26, 1 case, imported.

Washington: Spokane, June 12-19, 3 cases; Tacoma, June 13-20, 2 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, May 8-22, 9 cases, 2 deaths.

Canada: Halifax, June 12-19, 2 cases.

Chile: Santiago, June 7, present.

China: Amoy, May 1-15, present; Hankau, May 1-8, present; Shanghai, May 8-15, 1 death; Tientsin, April 24-May 1, 1 case.

Egypt: Cairo, May 21-27, 2 cases, 1 death.

France: Paris, June 5-12, 5 cases.

India: Bombay, May 25-June 1, 15 deaths; Madras, May 22-28, 1 death; Rangoon, May 15-22, 4 deaths.

Italy: June 6-13, 8 cases; Naples, 25 cases, 4 deaths.

Japan: Yokohama, June 1-7, 1 case.

Java: Batavia, May 8-22, 4 cases.

Mexico: Veracruz, June 15, 1 case.

Portugal: Lisbon, June 5-19, 9 cases.

Russia: Moscow, May 29-June 5, 29 cases, 13 deaths; Odessa, June 5-12, 4 cases; Riga, 7 cases; St. Petersburg, May 22-29, 19 cases, 3 deaths.

Switzerland: Geneva, May 29-June 5, 10 cases.

Turkey: Constantinople, May 30-June 6, 4 deaths.

YELLOW FEVER

Barbados: St. Joseph parish, June 5-20, 3 cases.

Brazil: Manaos, May 22-29, 2 deaths; Para, May 29-June 12, 5 deaths.

Ecuador: Guayaquil, May 22-29, 7 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, May 8-22, 49 cases, 32 deaths.

CHOLERA—FOREIGN

India: Bombay, May 25-June 1, 3 deaths; Rangoon, May 15-22, 1 case.

Russia: St. Petersburg, June 14-17, 106 cases, 24 deaths.

Straits Settlements: Singapore, May 8-15, 6 deaths.

PLAGUE

Chile: Antofagasta, May 29, 5 cases in the lazaretto; Iquique, May 30, 10 cases in the lazaretto.

China: Amoy, May 1-22, present; Chinchow, May 22, epidemic.

Ecuador: Guayaquil, May 22-29, 3 deaths.

Egypt: May 28-June 3, 19 cases, 18 deaths; Alexandria, May 29-June 5, 1 case; Port Said, June 9, 1 case.

India: General, May 15-29, 6,920 cases, 6,033 deaths; Bombay, May 25-June 1, 125 deaths; Rangoon, May 15-22, 6 deaths.

Japan: Kobe, May 28-June 5, 3 cases, 1 death; Yokohama, June 1-7, 5 cases, 4 deaths.

Peru: May 22-June 5, 13 cases, 7 deaths; Callao, 1 case, 1 death.

Venezuela: Caracas, to June 13, 10 cases, 4 deaths; June 14-21, 3 cases, 1 death.

Book Notices

A SYSTEM OF SYPHILIS. In six volumes. Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S. With an Introduction by Jonathan Hutchinson, F.R.S. Vol. I. Cloth. Pp. 380, with illustrations. Price, $13.50. New York: Oxford University Press, 1908.

The volume before us is the first of a six-volume system devoted to the subject of syphilis. It is a large octavo of over 400 pages, so that the entire work will contain approximately 2,500 pages. The appearance of such a system is in itself noteworthy and represents an undertaking which on the face of it is commendable. It means, first, that there is behind it an understanding of the extent, as well as of the importance, of the subject of syphilis and, second, that there is a spirit in the enterprise that does not hesitate at a great undertaking. The work bids fair, judging from this volume and the list of contributions to future volumes, to be a monument to scientific enthusiasm and British scholarship. It is distinctly a British work; except Metchnikoff and Iwan Bloch, all of the contributors belong to the English school. The work is appearing at an opportune time, for there is no longer room to doubt that the discovery by Metchnikoff and Roux of the inoculability of apes and monkeys with syphilis, the more recent discovery by Schaudinn and Hoffmann of the *Spirochæta pallida* in syphilis, and the application by Wassermann and others of the serum complement reaction in the diagnosis of syphilis mark the greatest epoch in our knowledge of syphilis since its sudden appearance in Europe in the last years of the fifteenth century. These events, indeed, almost mark an epoch in the history of medicine.

Most appropriately for a British work, the system begins with an introduction by Jonathan Hutchinson, the greatest syphilographer and one of the greatest clinicians that Great Britain has produced, a very Sydenham of an observer and a figure that, with Fournier, stands out above all the students of syphilis of the latter half of the nineteenth century. Hutchinson's introduction, like most of his recent writings, consists of disjointed paragraphs on various topics in syphilis; they are frankly intended to be, not systematic or complete, but suggestive. They constitute a highly interesting presentation of many problems of syphilis as they occur to a thoughtful and original mind that has given a large part of a long lifetime of study to syphilis. His introduction is extremely suggestive and is worthy any one's study.

In addition to Hutchinson's introduction the following subjects are considered in Volume I: "History of Syphilis," by Iwan Bloch, Berlin; "Microbiology of Syphilis," by Elie Metchnikoff, of the Pasteur Institute, Paris; "General Pathology," by F. W. Andrewes, Pathologist to St. Bartholomew's Hospital, London; "Primary Lesions and Early Secondary Symptoms," as seen in the male, by Colonel F. J. Lambkin of the British Army; the same lesions, as seen in the female, by Arthur Schillitoe, of the London Lock Hospital; "Congenital Syphilis," by G. F. Still, Professor of Diseases of Children, King's College, London.

Bloch's larger work in German on the history of syphilis proves his fitness for this topic. He gives to the subject four short chapters of 40 pages, and he has written as would be expected of him. The history of syphilis with its sudden appearance in Europe, its devastating spread, and the enigma of its origin is one of the most dramatic subjects in medicine, and Bloch treats it well. He believes, and in our opinion leaves little room for doubt, that it came from America. He emphasizes the findings of Spanish authorities that the disease can be traced back in authentic documents directly to sailors from Columbus' fleet who were treated by Spanish physicians and whose disease was recognized and recorded as new.

The chapters on the microbiology of syphilis by Metchnikoff are eminently satisfactory. He covers the field so well that his work may be considered practically up to date, even in the present stage of rapid development of this subject. In a short historical survey he reviews the work in this field by various observers prior to Schaudinn and Hoffmann's discovery. Of Siegel's *Cytorrhyctes luis*, which is still maintained as the cause of syphilis by its fond discoverer—and by no one else, as far as we know—he says: "The description and photographs . . . showed nothing which could in the slightest degree carry conviction. . . . " Then, before taking up Schaudinn's discovery, he describes how, from the resemblance of syphilis to dourine of horses, which is due to a spirillum, and because of the spirilla found in syphilis by Bordet and Gengou, he and Roux made a bacteriologic study of syphilis with the definite hope of finding a pathogenic spirillum, and after a fruitless search, "expressed the opinion that the disease could not be attributed to any form of spirillum"—this in the *Annales de l'Institut. Pasteur* in 1904 on the very eve of the discovery of the spirillum of syphilis. As to the rôle of the *Spirochæta pallida* in syphilis, he says: "We can say, speaking generally, that this organism can be shown in every possible lesion which is definitely syphilitic."

Andrewes' chapters on the pathology of syphilis do not suffer even by following Metchnikoff's. He divides his subject into three parts: the general pathology of syphilis; the general histology of syphilis; and the problems of immunity in syphilis. His plan of treating the subject is to give a running account of the clinical or experimental facts which he is at the moment considering and to follow this by the pathologic explanations. This treatment of the subject is, of course, scientific, and it adds much to the interest. The result is a particularly happy and philosophical exposition of the pathology of syphilis.

The chapters on the symptoms of the primary and secondary periods of syphilis are complete, but they are not particularly noteworthy. In the first place, the division of the subject into the symptomatology in the male and the symptomatology in the female is unnatural and is not justified by practical distinctions in the manifestations of the disease in the two sexes; further, it results in unavoidable repetition. In the chapters on the symptoms in the male there are several curious lapses in the Latin of the prescriptions. But, after all this is said, these chapters may be profitably consulted for facts on almost any point in syphilis of which they might be expected to treat.

The chapters by Still give a thoughtful, detailed, analytical account of congenital syphilis. Over eighty pages are given to the subject and they constitute a good monograph, whose value is increased from the fact that the disease is considered from the standpoint of the internist. The account of the cutaneous symptoms in congenital syphilis is sketchy and shows the lack of expert knowledge of dermatology.

The book-making has some unusual features. The paper is unglazed, and the type is large, so that reading is made unusually easy. Although, on account of the thickness of the paper, the volume is rather large, it is of light weight, so that that usual abomination of large volumes—difficulty of holding with ease while reading—is avoided. The illustrations are all printed on inserts. The clinical illustrations, which are with few exceptions colored, are mounted on heavy gray sheets, and this method of presenting them adds very much to their attractiveness. Altogether, they constitute a good atlas of the clinical manifestations of primary and secondary syphilis and of congenital syphilis. The microscopic illustrations, most of them in black and white, some of them colored, are beautifully reproduced. No expense or pains has been spared to make them as perfect as possible.

Altogether, the volume comes up to the high standard that is to be expected of it, and the system promises to be a noteworthy encyclopedia of syphilis.

Mendel's Principles of Heredity. By W. Bateson, M.A., F.R.S., V.M.H., Fellow of St. John's College. Cloth. Pp. 396, with illustrations. Price, $3.50. Cambridge: The University Press, 1909.

Bateson is the occupant of a newly founded chair in the University of Cambridge, founded and endowed for five years with the purpose of special study and inquiry into heredity and variations, or genetics, the more modern term.

This book, which is clearly written and well illustrated, aims to give a succinct account of the discoveries and developments in the field of heredity resulting from the application of Mendel's now well-known methods of research. In the first part Bateson deals with introductory matters and with Mendel's discovery; he then discusses the material investigated by himself and his associates and the numerical consequences and recombinations. Several chapters are devoted to heredity of color, heredity and sex, and double flowers. Chapter XII is devoted to a discussion of the evidences of Mendelian inheritance in man; and various examples of hereditary diseases and malformations are cited and illustrated with diagrams of heredity. The next four chapters deal with intermediates between varieties and "pure lines," miscellaneous, exceptional and unconformable phenomena, biologic conceptions in the light of Mendel's discoveries, and practical applications of Mendel's principles.

The second part contains an interesting biographical notice of Mendel and translations of epochal papers on hybridization and on *Hieracium*. There are also two portraits of Mendel. The book may be strongly recommended to physicians and to medical teachers who are interested in following the developments of the new science of genetics.

A full bibliography is given and there is a separate index to subjects and authors.

The Influence of Heredity on Disease, with Special Reference to Tuberculosis, Cancer and Diseases of the Nervous System. A. Discussion opened by Sir William S. Church, Bt. K.C.B., M.D., President of the Royal Society of Medicine, Sir William R. Gowers, M.D., F.R.S., Arthur Latham, M.D., and E. F. Bashford, M.D. [From the Proceedings of the Royal Society of Medicine, 1909, Vol. II.] Cloth. Pp. 142, with illustrations. Price, $1.50. New York: Longmans, Green & Co., 1909.

This discussion is the first held by the Royal Society of Medicine in accordance with its intention to hold from time to time, in addition to the meetings of its sections, meetings of the society as a whole to discuss questions of general medical interest. In view of the importance of determining exactly, if possible, the influence of heredity as an etiologic factor in disease, it was thought proper to publish as a separate volume the discussion of this subject at four different meetings in the latter part of 1908. While the discussion does not settle the question, yet the Royal Society may well be congratulated on the outcome of the attempt, because the discussion as presented in the volume before us unquestionably is the most weighty contribution to the great problem of heredity and disease since the introduction of the modern methods of study of inheritance in general.

The most valuable concrete results of the discussion would seem to be (1) the conclusion that true heredity plays little or no part in causing tuberculosis and cancer, and that from the evidence in hand no really trustworthy conclusions may be drawn as to the influence of heredity on insanity and functional nervous disorders, and (2) the forcible demonstration of the urgent necessity of the collection of complete pedigrees of human beings with special reference to disease. Even in the case of clearly inheritable diseases there are very few good pedigrees for the study of the applicability of Mendelian and other laws of heredity; and practically all the statistics accumulated on insanity are valueless for any practical or scientific purpose, representing in so far a gigantic waste of time and labor, because they do not give numerical records of the sane members of the families of the insane and of the insane members of the families of the sane. Lack of completeness vitiates most of the statistics bearing on heredity in relation to human diseases.

Heredity from the standpoint of Mendelism is well represented by Professor Bateson and Mr. Mudge; while Professor Pearson upholds ably the value of the biometric method in the study of heredity. The introduction of the president, Sir William E. Church, is eloquent and illuminating, and throughout the discussion clearness and ability are noteworthy. All who are at all interested in heredity and disease are urgently recommended to study this noteworthy discussion. This book and Bateson's on "Mendel's Principle on Heredity" should lead to great increase in the interest among medical men in the accurate study of heredity.

Die Behandlung der Geburten bei engen Becken. Von Dr. E. Scipiades, Assistenten der zweiten Frauenklinik der konigl. ung. Universität in Budapest. Paper. Pp. 246. Price, 7 marks. Berlin: S. Karger, 1909.

This monograph is a translation from a Hungarian work published by Scipiades in 1906. Scipiades discusses in detail the advantages, disadvantages and indications for the various methods in the treatment of contracted pelvis and gives especial attention to the methods of pubiotomy.

COMMON DISORDERS AND DISEASES OF CHILDHOOD. By George Frederick Still, M.A., M.D., F.R.C.P., Professor of Diseases of Children, King's College, London. Cloth. Pp. 731, with illustrations. Price, $5.50. New York: Oxford University Press, 1909.

This modest little book of 700 pages comes to us as another of those refreshing and most admirable works that represent the mature ideas and interests of one of the great English pediatricians. In many ways it reminds one of that other excellent little treatise by the great Edinburgh clinician, Thompson ("The Examination and Treatment of Sick Children"), which was recently reviewed in these columns. Yet each has its individuality so strongly marked that one reads them both as one would go to two clinics on the same subject by two different authorities. Dr. Still emphasizes the fact that he has not written a text-book, but has been "selective and discursive" as "suited his bent." This gives the book a more direct personal appeal to the reader that adds much to its worth. It would be hard indeed to find anywhere another book that is so prolific in answers to the innumerable questions that come to us in our daily observation of children. There are, for example, 7 most comprehensive pages on "Disorders of Dentition," 8 on "Dental Caries," 3 on "Teeth-Grinding," 6 on "Head-Rolling, Head-Banging and Body-Rocking," 11 on "Head-Nodding with Nystagmus in Infancy," 11 on "Mongolian Idiocy," and 24 very practical pages on "Fever of Obscure Origin," in which Dr. Still gives a deserved prominence to acute primary pyelitis. One misses the profusion of peculiarly illustrative pictures in Thompson's book, but the smaller number here are well chosen. Dr. Still's ideas on infant-feeding fundamentally are those of the English school, and yet he brings so much individuality and originality to the subject that one reads it with renewed interest. On the whole, this little book can not be too highly commended to any one interested in infants and children, and any physician, especially one who has been in practice for a number of years and has collected a large number of questions to which he would like to find satisfactory answers, will find here a veritable mine of information.

ORTHOPEDIC SURGERY FOR PRACTITIONERS. By Henry Ling Taylor, M.D., Professor of Orthopedic Surgery and Attending Orthopedic Surgeon, New York Post-Graduate Medical School and Hospital. Assisted by Charles Ogilvy, M.D., Adjunct Professor of Orthopedic Surgery New York Post-Graduate Medical School and Hospital, and Fred H. Albee, M.D., Instructor in Orthopedic Surgery, New York Post-Graduate Medical School and Hospital. Cloth. Pp. 503, with illustrations. Price, $5.00. New York: D. Appleton & Co., 1909.

The book is dedicated to Dr. Charles Fayette Taylor, the father of the author, and one of the pioneers in this country in orthopedic surgery. It is divided into general, special and technical parts, and an effort has been made to present such methods as are at the command of any intelligent practitioner, and to eliminate irrelevant and useless matter. The result is the most readable book that has so far been written on orthopedic surgery. For the student and for the busy practitioner the division of the work into three parts may be confusing and unsatisfactory. A student more readily masters a subject when all that is to be said about it can be found in one place, and the practitioner who wishes to arrive at a differential diagnosis in an obscure case, and to learn at once how best to treat the patient may become impatient when he has to follow his subject through three separate and distinct divisions of the book. There have appeared in English only two books on orthopedic surgery that may be considered in a class with this, namely, that of Bradford and Lovett, and that of Whitman. This book is more concise and contains much less irrelevant matter than the former, and does not constantly repeat itself as does the latter.

Throughout the book Dr. Taylor makes use of the term "ichor pockets" as a technical term to replace the term "tuberculous abscesses," or "cold abscesses," holding that abscess suggests pus, and that the term "tuberculous pus" is not only inaccurate but misleading, since the liquid contents of tuberculous abscesses are in no way pus at all in the sense of modern pathology, and since the use of any term suggesting that this liquid is a form of pus often leads to surgical procedures that are right enough when true pus is present, but absolutely wrong if it is only "ichor" or tuberculous pus. We hope the use of these words in the technical sense will obtain.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 3. Sec., Dr. Charles L. Tisdale, Butler Bldg.
GEORGIA: Regular, Capitol Bldg., Atlanta, August 3-4. Sec., Dr. E. R. Anthony, Griffin.
ILLINOIS: Coliseum Annex, Chicago, July 20-22. Sec., Dr. J. A. Egan, Springfield.
NEBRASKA: State Capitol, Lincoln, August 4-5. Dr. A. L. Muirhead, 4248 Burdette St., Omaha.

Arkansas January and April Reports

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examinations held at Little Rock, Jan. 12 and April 13, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75.

At the examination held in January, the total number of candidates examined was 60, of whom 21 passed, including 11 non-graduates, and 39 failed, including 37 non-graduates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Illinois Medical College	(1906)	80.
Hospital College of Med., Louisville (1895) 80.5;	(1908)	81.2
Tulane University of Louisiana	(1903)	79.4
University Medical College, Kansas City	(1908)	77.
Vanderbilt University (1892) 78.7;	(1908)	87.2
University of Tennessee	(1891)	75.
University of Nashville	(1908)	85.8
University of the South	(1908)	88.1
FAILED		
University of Georgia	(1908)	65.
Meharry Medical College	(1908)	57.1

LICENSED WITHOUT EXAMINATION

There were also licensed at this examination seven old practitioners including one non-graduate, who were granted license by reason of having been registered under the old law. The following colleges were represented:

College	Year of Grad.
[illegible]	(1891)
[illegible]	(1899)
[illegible] al College	(1885)
[illegible] cal College	(1903)
[illegible]	(1882)
[illegible]	(1872)

At the examination held in April, the total number of candidates examined was 68, of whom 34 passed, including 22 non-graduates, and 34 failed, including 25 non-graduates.

College	Year Grad.	Per Cent.
PASSED		
University of Arkansas	(1908)	76.8
Howard University	(1906)	82.1
Hospital College of Medicine, Louisville	(1901)	88.1
Tulane University of Louisiana	(1901)	77.4
Flint Medical College	(1904)	75.
Missouri Medical College	(1888)	75.
Vanderbilt University	(1901)	84.4
Memphis Hospital Medical College (1899) 83.;	(1908)	79.8
University of the South	(1908)	82.8
Fort Worth University	(1883)	76.2
Meharry Medical College	(1909)	82.5
FAILED		
University of Georgia	(1908)	62.
Kentucky School of Medicine	(1902)	64.1
University of West Tennessee	(1907)	41.
Meharry Medical College, (1899) 65.1; (1907) 38.; (1908) 64, 65.4, 73.2; (1909) 55.7.		

LICENSED WITHOUT EXAMINATION

There were also licensed at this examination five old practitioners, including two non-graduates, who were granted license by reason of having been registered under the old law. The following colleges were representd:

College	Year of Grad.
University of Arkansas	(1888)
University of Iowa	(1887)
St. Louis College of Physicians and Surgeons	(1889)

Nebraska May Report

Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, May 25-27, 1909. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 6, of whom 3 passed and 3 failed. Twenty-six reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Central Medical College, St. Joseph	(1900)	90.
Creighton Medical College	(1908)	83.5
Jefferson Medical College	(1902)	76.5

FAILED

College	Year Grad.	Per Cent.
Sioux City College of Medicine	(1908)	62.1
Creighton Medical College	(1908)	71.
Nebraska College of Medicine	(1908)	64.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
American Medical Missionary College	(1901)	Illinois
National Medical University	(1905)	Illinois
Bennett College of Eclectic Medicine and Surgery, (1900) Wyoming.	(1897)	Wisconsin
Rush Medical College	(1894)	Iowa
Northwestern University Medical School	(1908	Illinois
University of Iowa	(1884), (1904), (1908)	Iowa
Keokuk Medical College, Col. of Phys. and Surgs.,	(1902)	Illinois
University of Kansas	(1907)	Kansas
University of Maryland	(1891)	Iowa
Johns Hopkins Medical School	(1900)	U. S. Army
University of Maryland	(1902)	Maryland
Central Medical College, St. Joseph	(1903)	Missouri
Barnes Medical College	(1899)	Missouri
Washington University, St. Louis	(1906)	Illinois
Ensworth Medical College, St. Joseph, (1886) Ia.;	(1907)	Kansas
Missouri Medical College	(1895)	Missouri
Creighton Medical College	(1908)	Illinois
Cleveland College of Physicians and Surgeons	(1896)	Ohio
Eclectic Medical Institute, Cincinnati	(1906)	Illinois
Miami Medical College	(1875)	Iowa
University of Virginia	(1878)	U. S. Army
Milwaukee Medical College	(1897)	Wisconsin

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Business Partnerships in the Medical Profession

In a recent number of the *Boston Medical and Surgical Journal*, Dr. G. C. Shattuck of Boston, in some interesting "Random Medical Notes of Travel," makes reference to the practice, common in China among physicians, of associating themselves in partnership—usually one physician, one surgeon, and one or more specialists. In Shanghai and Hong Kong, practically all English physicians are thus associated. In an association of four, each would thus be given the opportunity once in four years of going on vacation, and at the same time of strengthening his professional weak points and gaining new ideas. The others divide the work of the absentee so that his practice is not lost and he receives his share of the profits from the firm.

The fees charged in Shanghai are so much a year for every member of a family without regard to the number of calls made. The only extra charges are for operations. The patient may choose any physician he wants, and having chosen, may call the other members of the firm either in consultation or when his own medical attendant is away. The physician is responsible for his patients under all circumstances. It does not matter what may be needed or what difficult operation may be required, he must perform it to the best of his ability himself.

From the patient's point of view the system is a success because a medical man can be found at any time, and because in case of sickness doctor's bills do not increase. The physicians like it because they get an assured income, and because it enables them to take vacations without losing their practice. Very good all-round men are developed by this system, but it must sometimes happen that a physician is called on to do work for which he is not fitted. This difficulty is obviated to some extent by the fact that most Shanghai people go to England every few years, and while there have their eyes examined and can have operations performed if necessary.

In Hong Kong, as in Shanghai, the profits of physicians' firms are divided, but fees are charged for every visit instead of for the year's attendance, and an attempt is made to divide the different kinds of practice among the members of a firm, instead of insisting that every man shall do everything. Specialism had not appeared in Shanghai at all when Shattuck was there, but he thinks it is beginning to come in outside the firms at Hong Kong. However well the firm system may work in small communities, he thinks that if the foreign cities continue to grow, it must break down or limit its scope before long in China. In that case the general practitioners would be able to make a living without undertaking everything, and they would probably part willingly with some of the responsibilities which rest on them under the old system. Shattuck thinks that in a city where there are already nine or ten recognized specialists, and where medicine and surgery are being still further subdivided, the practical difficulties of managing a firm to undertake all kinds of practice would be prohibitive.

Proposed International System of Postgraduate Courses

The German system of a central organization of free postgraduate courses of lectures and exhibitions throughout the country has been in operation for about six years. It has its own central building, the Empress Friedrich House at Berlin, and it publishes a monthly organ, edited by R. Kutner, the *Zeitschrift für aerztliche Fortbildung.* Waldyer and Kutner have been appointed delegates from the committee in charge to attend the approaching international medical congress at Budapest and interest the profession in forming an international organization for postgraduate medical work along the same lines as this national organization.

A long anonymous communication in the *Münchener medizinische Wochenschrift*, April 20, denounces the entire system of these free courses, as the lecturers charge nothing for the lectures—directly—but, the writer says, they expect to profit from them indirectly in the long run. The recent tipping scandal written up in our Berlin Letters is cited as an indication of the way in which the profession is drifting on the rocks, and it is demanded that this free postgraduate system of instruction be abandoned. One of the reasons for the demand is the principle taught by the *Leipziger Verband* that the medical laborer is worthy of his hire and is entitled to payment for every medical service. Another reason given is that the free postgraduate courses cut into the receipts of the pay courses offered by privat docents, whose meager salaries need this aid.

To this communication Kutner responds with great indignation in his *Zeitschrift*, denouncing, among other things, the mentioning in the same breath of the tipping scandal and the unselfish devotion of the many eminent men who have participated in the organized postgraduate courses throughout the country from the highest altruistic motives.

Marriages

KARL A. DANELL, M.D., to Miss Mathilda Z. Eliason, both of Chicago, June 24.

FRANK NEE, M.D., to Miss Elizabeth King, both of Spring Green, Wis., June 22.

CECIL GARRENTON, M.D., to Miss Isabel N. Dunn, both of Philadelphia, June 30.

EMANUEL FRIEDMAN, M.D., Denver, to Miss Rebecca Schugar of Pittsburg, Pa., July 4.

JOHN B. EGAN, M.D., Excelsior, Wis., to Miss Margaret Meier of Fennimore, Wis., June 15.

FELIX VILELLA, M.D., Porto Rico, to Miss Rita Boswell, at Ellicott City, Md., January 23.

J. ELMER SAALMAN, M.D., Indianapolis, to Miss Elsie C. Staup of Freeport, Pa., June 14.

CHARLES E. SCULLIN, M.D., Peoria, Ill., to Miss Grace Barracks, at Franklin, Ind., June 22.

JOHN ROBERT ABERCOMBIE, M.D., to ANNA DEBRING SCHULTZE, M.D., both of Baltimore, June 30.

ALGERNON R. FIKE, M.D., Spartanburg, S. C., to Miss Rose Wingo of Asheville, N. C., June 30.

CHESTER L. JONES, M.D., Philadelphia, to Miss Caroline F. Schock of Mount Joy, Pa., July 1.

MICHAEL F. BURKE, M.D., Natick, Mass., to Miss Alice B. Madden of Haverhill, Mass., June 29.

JOHN FRANCIS FORD, M.D., to Miss Marguerite A. McKenna, both of Roslindale, Boston, recently.

Joseph V. Grahek, M.D., Calumet, Mich., to Miss Alice Belhumer of Champion, Mich., June 22.

Alfred Henry Noehren, M.D., Buffalo, N. Y., to Miss Juliet Egelhoff of Milwaukee, Wis., June 22.

Walter C. Gilday, M.D., New York City, to Miss Lillian Randolph Bailey of Baltimore, June 30.

Leonard Davis Frescoln, M.D., Philadelphia, to Miss Ethel May Cordes of Millington, N. J., June 30.

Charles W. Pollard, M.D., Omaha, to Miss Helen R. Cole of Peru, Neb., at Des Moines, Iowa, June 26.

Harry L. Gilchrist, M.D., U. S. Army, to Miss Mayme L. Morganthaler of Cleveland, Ohio, June 30.

Marion S. Jordan, M.D., Grand Mound, Iowa, to Miss Charlotte E. Clarke of Maquoketa, Iowa, June 16.

Robert Hance Casperson, M.D., Camden, N. J., to Miss Susan May Naudain, at New York City, June 30.

Francis E. Lister, M.D., Brookston, Ind., to Mrs. Gertrude B. Delzell of Chicago, at Morgan Park, Ill., June 22.

Thomas Franklin Dodd, M.D., Stuart's Draft, Va., to Miss Katharine Louise Smith, at Alexandria, Va., June 30.

Lewis Henry Marks, M.D., Poughkeepsie, N. Y., to Miss Maud Willis Lawrence, at Tusculum, Tenn., June 30.

Robert Elliott Graves, M.D., Chicago, to Miss Angeline Loesch of Chicago, at her summer home, Spring Lake, Mich., June 30.

Deaths

Lewis Sloat Paddock, M.D. New York Medical College, New York City, 1854; for more than fifty years a practitioner of Norwich, Conn.; a member of the Connecticut State Medical Society; and for many years a member of the American Medical Association; once president of New London County Medical Society; consulting physician to the Baccus Hospital, Norwich, since its foundation; for many years medical examiner of New London county; died at the Baccus Hospital, June 24, from disease of the bladder, aged 79.

William Josiah Fairfield, M.D. Bellevue Hospital Medical College, New York City, 1878; formerly of Anderson, Ind.; secretary of the Anderson Board of Health; and surgeon to the Chicago and Southeastern Railroad; a member of the American Medical Association, American Academy of Railway Surgeons and American Public Health Association; who moved to Delta, Colo., in 1908; was drowned in the Gunnison river, at his ranch near Delta, while swimming, June 27, aged 56.

William H. Whitehead, M.D. University of Maryland, Baltimore, 1870; of Rocky Mount, N. C.; a member and once president of the Medical Society of the State of North Carolina; a member of the board of directors of the Central Hospital, Raleigh; once a member of the State Board of Medical Examiners, and for several years division surgeon for the Atlantic Coast Line Railway; died in Raleigh, June 24, from paresis, aged 57.

Edwin Howard Vose, M.D. Medical School of Maine, Brunswick, 1864; formerly a member of the Maine Medical Association and New Brunswick Medical Society; acting assistant surgeon in the Navy during the Civil War; a member of the Calais, Maine, U. S. Pension Examining Board from 1873 to 1908; and city physician in 1872 and from 1876 to 1892; died at his home in Calais, June 27, aged 74.

Hugh R. C. Manning, M.D. Louisville (Ky.) Medical College, 1898; Hospital College of Medicine, Louisville, 1899; a member of the American Medical Association and Louisville Academy of Medicine; formerly assistant professor of theory and practice of medicine in the Hospital College of Medicine and chief of clinic; died at the family home in Manchester, Ky., July 1, from nephritis, aged 35.

Frank Huron Wallace, M.D. Dartmouth Medical School, Hanover, N. H., 1886; of Boston, Mass.; a member of the American Medical Association; formerly lecturer on materia medica and therapeutics in the College of Physicians and Surgeons, Boston; died June 27, in the Massachusetts Eye and Ear Infirmary, Boston, from acute nephritis, while awaiting operation, aged 49.

Charles Duff Jackson, M.D. Western Pennsylvania Medical College, Pittsburg, 1904; of Denver, Colo.; a member of the Colorado State Medical Society; died in Mercy Hospital, Denver, June 28, from injuries received in a collision between his motorcycle and an electric car, in which he sustained a fracture of the shoulder and concussion of the brain, aged 30.

John Woolf Burton, M.D. University of Maryland, Baltimore, 1865; Washington University, Baltimore, 1872; for many years a member of the Medical Society of the State of North Carolina; committed suicide at his home in High Point, June 30, by hanging himself in his stable, while mentally irresponsible from ill health and despondency, aged 65.

James Madison Kelley, M.D. Bellevue Hospital Medical College, New York City, 1878; a member of the Medical Association of Georgia; physician and surgeon to the Griffin (Ga.) Hospital; major and surgeon Second Infantry N. G. Ga.; for several years a member of the city council; died at his home in Griffin June 29, from paralysis, aged 55.

Thomas B. Campbell, M.D. Bellevue Hospital Medical College, New York City, 1871; a member of the Indiana State Medical Association and president of the Fountain-Warren Medical Society; for forty-five years a practitioner of Indiana; died at his home in West Lebanon, May 30, from lobar pneumonia, aged 66.

Charles Forester Millar, M.D. University of California, San Francisco, 1899; of San Francisco; member of the American Medical Association; chief of the Emergency Hospital service after the earthquake and fire in 1906; at one time a member of the surgical staff of the Southern Pacific Railroad; died at a hospital in Seattle, Wash., June 22, from tuberculosis.

Nicholas F. Howard, M.D. Medical College of Georgia, Augusta, 1851; surgeon of the Fifty-second Georgia Infantry, C. S. A., during the Civil War; a representative of the legislature from Lumpkin county in 1856; and for several years vice-president of the North Georgia College; died at his home in Dahlonega, Ga., June 23, aged 87.

Edward Zina Cole, M.D. Hahnemann Medical College, Chicago, 1879; founder and president of St. Luke's Hospital, and professor of gynecology in the Atlantic Medical College, Baltimore; died at his home in that city, June 29, from heart disease following heat prostration in Detroit, four days before, aged 55.

James Russell Curnow, M.D. Bellevue Hospital Medical College, New York City, 1882; for many years a member of the Medical Society of the State of California; a specialist on nervous and mental diseases, of San Jose, Cal.; died in the State Hospital for the Insane, Agnews, June 29, aged 56.

Aaron G. Chase, M.D. Cincinnati, 1859; for forty-two years a practitioner of Easton, Kan.; a surgeon in the volunteer service during the Civil War; and for several years editor of the *Kansas Farmer*, died at his home in Easton, Dec. 31, 1908, from heart disease, aged 69.

Sebern J. Layman (license, Ill., years of practice, 1878); assistant surgeon of the Eighteenth Illinois Volunteer Infantry during the Civil War; local surgeon at Tamoroa for the Illinois Central Railroad for many years; died at his home, June 27, aged 72.

Frederick Charles Robinson, M.D. New York University, New York City, 1876; a member of the American Medical Association; and a veteran of the Civil War; for two years a trustee of the public schools; died at his home in New York City, July 4, aged 63.

Robert James Hess, M.D. University of Pennsylvania, Philadelphia, 1871; a member of the American Medical Association; from 1874-1880 a member of the staff of the State Insane Hospital, Harrisburg; died at his home in Philadelphia, June 20, from pneumonia, aged 63.

John W. Whidden, M.D. Hahnemann Medical College, Chicago, 1879; of Portland, Maine; formerly president of the Maine State Homeopathic Society; died at Highland Lake, Maine, June 29, from cerebral hemorrhage, aged 53.

Henry Watrous Post, M.D. University of Vermont, Burlington, 1876; died at his home in New York City, June 25, from the effects of a self-inflicted gunshot wound of the head, while irresponsible on account of heat prostration, aged 54.

John Dooley, M.D. Physio-Eclectic Medical College, Cincinnati, 1876; American Eclectic Medical College, Cincinnati, 1890; at one time surgeon in the Kansas National Guard; died at his home in St. Louis, June 12, aged 77.

Raphael Asselta, M.D. University of Naples, Italy, 1884; said to have been the first Italian practitioner in New York City; died in New York Hospital, July 6, while undergoing operation for disease of the throat, aged 52.

Amanda Jane Evans, M.D. University of Michigan, Homeopathic College, Ann Arbor, 1880; for more than twenty years a practitioner of Grand Rapids, Mich.; died at the home of her daughter in that city, July 2, aged 65.

James Augustus Bennett, M.D. New York University, New York City, 1860; surgeon of the Thirteenth Volunteer Heavy Artillery during the Civil War; died at his home in Prattsburg, N. Y., January 14, aged 77.

Ezekiel Lawson, M.D. University of Pennsylvania, Philadelphia, 1853; surgeon of the Third Delaware Volunteer Infantry during the Civil War; died at his home in Baltimore, June 27, from senile debility, aged 78.

Daniel Royer Good, M.D. Jefferson Medical College, Philadelphia, 1858; a surgeon in the Federal service during the Civil War; died at his home in Osceola Mills, Pa., June 26, from senile debility, aged 80.

Harry C. Stickney, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1868; of Los Angeles, Cal.; died in the Los Angeles County Hospital, Oct. 24, 1908, from paralysis agitans, aged 64.

George R. Thomas, M.D. Memphis (Tenn.) Hospital Medical College, 1886; a member of the Tennessee State Medical Association; died at his home at Jones' Station, June 25, from dysentery.

John Evans Tuttle, M.D. Rush Medical College, Chicago, 1868; formerly a practitioner of Myersville, Ill.; died at his home in Danville, Ill., Nov. 20, 1908, from angina pectoris, aged 68.

Robert Henry Davis, M.D., surgeon in the Confederate service during the Civil War; died at the home of his daughter in Brooklyn, N. Y., Dec. 15, 1908, from lobar pneumonia, aged 81.

Richard Benbury Creecy Lamb, M.D. University of Maryland, Baltimore, 1904; of Yslita, Texas; died in Providence Hospital, El Paso, Texas, June 22, from typhoid fever, aged 26.

Matthias Gau (license, exemption certificate, Minn., 1883); formerly of Freeport, Minn.; for forty-five years a practitioner of that state; died in November last in California.

Andrew G. Grubbs (license, Allegheny county, Pa., 1891); of McKeesport, Pa.; died suddenly in a hospital in Pittsburg, January 3, from cerebral hemorrhage, aged 79.

James L. White, M.D. Jefferson Medical College, Philadelphia, 1855; a member of the Medical Society of Virginia; died at his home in Farmville, Va., June 26, aged 75.

James Griffin Coleman, M.D. Western Reserve University, Cleveland, 1847; died at his home in Chagrin Falls, Ohio, May 31, from senile debility, aged 90.

L. H. Ingraham (license, Ark., 1903); for many years a practitioner of Lavaca and Fort Smith; died at his home near the latter city, June 22, aged 64.

Seneca D. F. Gurney, M.D. Memphis (Tenn.) Medical College, 1854; was shot and killed by his insane son, at his home in Quincy, Ill., June 27, aged 79.

Erastus Coffin, M.D. American Eclectic Medical College, Cincinnati, 1890; died suddenly from heart disease at his home in Cincinnati, June 26, aged 68.

Arza O. Osborn, M.D. Michigan College of Medicine and Surgery, Detroit, 1897; died at his home in Trenton, Mich., July 1, from erysipelas, aged 30.

Quincy Adams Bridges, M.D. Medical School of Maine, Brunswick, 1890; of Guilford, Maine; died in Berlin, N. H., May 17, from nephritis, aged 45.

William Alexander Brownfield, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1895; died at his home in Thayer, Kan., June 22, aged 69.

Byron Holmes, M.D. Rush Medical College, Chicago, 1868; of Fond du Lac, Wis.; died in the Fond du Lac County Hospital, June 28, aged 64.

James M. Ritchie (license, Texas, 1907); of Boyd, Texas; died in St. Joseph Infirmary, Fort Worth, Texas, May 20, from tetanus, aged 35.

John P. Starr, M.D. Atlanta (Ga.) Medical College, 1879; died suddenly at his home in Sunnyside, Ga., June 25, from heart disease, aged 59.

John S. Lindabury, M.D. New York University, New York City, 1862; died at his home in Bloomsbury, N. J., June 23, from paralysis, aged 83.

Albert Prentiss Ryall, M.D. University of Pennsylvania, Philadelphia, 1866; died at his home near Shelbyville, Tenn., June 20, aged 69.

William W. Rumsey, M.D. Keokuk (Iowa) Medical College, 1901; of Napa, Cal.; died in Pacific Grove, Cal., June 27, from anemia, aged 47.

Frederick Richard Loeber, Jr., M.D. Tulane University, New Orleans, 1899; died at his home in New Orleans, June 30, from general debility.

Calixto H. Dumas, M.D. Minneapolis (Minn.) College of Physicians and Surgeons, 1896; died at his home in Minneapolis, Dec. 21, 1908.

Simon Jumper (license, Ill., years of practice, 1877); died at his home in Marshall, Ill., Nov. 9, 1908, from heart disease, aged 82.

John W. Stone (license, Ill., years of practice, 1877); died at his home in Springerton, Ill., January 11, from paralysis, aged 68.

John Samuel McAdow, M.D. St. Louis, 1855; died at his home in Barnard, Mo., June 1, from disease of the bladder, aged 76.

Samuel Hall Morris, M.D. Albany (N. Y.) Medical College, 1881; died at his home in Rochester, N. Y., June 30, aged 76.

John R. Smith, M.D. Eclectic Medical Institute, Cincinnati, 1881; died at his home in North Carmi, Ill., June 27, aged 59.

Sidney L. Fuller, M.D. Chicago Medical College, 1861; died at his home in Chicago, June 16, from uremia, aged 71.

Nelson P. Walters, M.D. National Medical University, Chicago, 1905; died at his home in Evanston, Ill., June 24.

John S. Marshall, M.D. Miami Medical College, Cincinnati, 1877; died at Redlands, Cal., Nov. 18, 1908, aged 64.

B. F. Darby (license, years of practice, Ill., 1878); died at his home in Paris, Ill., March 4, from paralysis, aged 82.

Hugh Ross (license, Wash., registration, 1889); of Seattle; died at his home, May 7, aged 61.

Society Proceedings

COMING MEETINGS

British Columbia Med. Assn., Seattle, Wash., July 19.
Idaho State Medical Association, Seattle, Wash., July 19.
Oregon State Medical Association, Seattle, Wash., July 19.
Washington State Medical Association, Seattle, July 20.

AMERICAN ACADEMY OF MEDICINE

Thirty-fourth Annual Meeting, Hotel Dennis, Atlantic City, N. J., June 5-7, 1909

(Continued from page 71)

President's Address: American Characteristics and Professional Responsibility

Dr. Helen C. Putnam, Providence, R. I.: The variations between American traits noted by Tocqueville and other critics of the 40's and by those at the end of the century show many to be transitory; others more permanent or increasing. These last need the patriot's study. The census and other statistical reports show that we have grown from an infant among nations to a leader or rival in value of exports; suicides and insanity; inventions; murders without convictions; multimillionaires; fatalities and other accidents of transportation and industries; national wealth; infant mortality; developed natural resources; wastefulness of timbers, waters, mines and animal life; vastness of business combinations; increase of vice, social diseases, divorce; school population and educational institutions; vagaries in religion, psychology, economics and medicine; manufactures more than one-third of all the world; two million children under sixteen wage earning; tramps—distinctly an American product; unemployed and unemployable; numbers and excellence of sociologic movements for social betterment. Our mistakes are chiefly due to ignorance of and indifference to life including as a result greed and indifference to law. The medical profession is logically responsible for removing this fundamental obstacle to worthier ambitions —ignorance of biologic facts, phenomena and laws; ignorance more profound since we are so rapidly to become a nation of city dwellers. What a few public school instructors are beginning to do wisely the profession should give its utmost support to forwarding. The advance of physicians themselves depends, at this stage, more on a better preparatory foundation than on alterations in medical courses much as the latter are needed.

Division of the Fee and Commission to Physicians

Dr. Augustus A. Eshner, Philadelphia: In commerce sales usually yield profits. Medicine is neither trade nor business. The living expenses of the physician are proportionately larger than those of the layman. The medical man can not delegate his work to others, but must attend to it himself. His leisure is restricted by the constant demands on his time. He does much work without pecuniary compensation. The physician's fee varies with the requirements of the individual case and with the skill and experience of the practitioner. The service should be adequately compensated, and equally so if a second physician is called into the case. There can be no honorable division of the physician's fee. To make such a division, or for a medical man to pay or receive compensations would be compromising and demoralizing to both donor and recipient, and at the same time disadvantageous to the patient. Nor should commissions be accepted by physicians for articles purchased by patients from druggists, instrument makers and other tradesmen.

Payment of Commissions by Specialist to General Practitioner

By DR. E. GARD EDWARDS, La Junta, Col. (Read by DR. HENRY B. HEMENWAY, Evanston, Ill.): From the practice of many leading surgeons the custom of fee splitting has spread to almost every specialty, even in minor referred cases. Seemingly, it is a general practice, even among men of high reputation, especially surgeons, and is said to be more common in the West than in the East. The time has arrived for the profession in general to be sure where the leaders, both general practitioners and specialists, stand. The existence of this custom is rarely mentioned in medical literature, almost never in medical societies and is discussed among the profession with bated breath. The horde of embryo specialists abroad in the land is partly responsible for this condition by increasing the already keen competition. Fee splitting is justifiable when a general practitioner has charge of the case before and after an operation and then only when the patient, physician and consultant have a full understanding as to the gross amount of the fee to be paid from beginning to end. No amount of regulating by societies will control it.

DISCUSSION

DR. CASEY A. WOOD, Chicago: The mainspring of this difficulty perhaps lies in the failure of the *family practitioner* to send a bill for services and collect just as the specialist or consultant does. In my opinion, this practice of paying commissions is not so universal as we are given to believe. I would like to know the proportion (not from experience, but from hearsay) in which it is believed to be carried on. In my judgment there is no better way of dealing with this matter than is set forth in the papers. One can not improve on the good old plan of each man collecting his own bill. The general practitioner, whether it be his own fault or not, often gets the worst of the arrangement when he brings a patient to a consultant.

DR. JOHN B. ROBERTS, Philadelphia: I have found that some men used to practice this thing and have become convinced that it is wrong. I can not see how any honorable upright person, whether physician, preacher, lawyer or business man, could ever believe that such a thing was a possible thing to do with professional propriety. It is possible that one reason for the existence of the evil is that a great many men go into medicine without any professional training in the office of a preceptor, and we who are beyond fifty or sixty must remember that we have acquired our ideas of right by absorption of the atmosphere of our preceptor's office. I think the question comes down to the point that it must not be the societies, but the colleges that must teach these men the right.

DR. F. T. ROGERS, Providence: When the average practitioner of medicine appreciates the fact that when he devotes time to an unusual case he should charge more than the usual fee the question of fee splitting will be settled.

DR. W. A. KICKLAND, Fort Collins, Colo.: I come from the same state as Dr. Edwards and understand his position and I must admit that the custom of fee splitting in my section is very prevalent. I do in a little way some referred work in surgery but there are a very few men who allow me to charge my own fee, the proportion being sent me. The cases from which I get my larger fees are from my own general practice.

DR. A. ESHNER, Philadelphia: It seems to me that the single solution is that the patient must understand that he is to pay for the services rendered to him, whether by the general practitioner, the specialist or the consultant and that this must be a common understanding among the three. Therefore, there need be no division of the fee. It seems to me that the obligation to split a fee must be compared with the temptation to which a good many, particularly the younger men are subjected, when women come to them and ask to be relieved of the product of conception. If he declines they probably tell him that some other physician will do it. Do we think that sufficient reason to acquiesce?

A Celebrated Malpractice Suit, 1821-1826

DR. JAMES A. SPALDING, Portland, Me.: The lawsuit of Lowell of Lubec, Maine, vs. Dr. Faxon and Hawkes of Lubec and Eastport, Maine, respectively, probably gave rise to more discussion and literature than any other ever before the public and the medical profession of New England. Lowell was thrown from horseback and injured by the horse falling back on him in 1821, suffered from an alleged hipjoint dislocation, was maltreated and neglected as he claimed by the above physicians, consulted Dr. John Collins Warren of Boston, was operated on by him and the staff of the Massachusetts General Hospital, and obtained from those physicians under legal threats affidavits inculpating the Maine physicians. After three extended trials the case was thrown out of court and for four years afterwards publications concerning both sides were widely distributed. This case seems unique in that long afterward a postmortem examination was made, something so far undiscovered as other malpractice suits have been investigated. It is also interesting from this examination to discover that no one of the many physicians involved seems to have made an absolutely correct diagnosis.

DISCUSSION

DR. GAY, Boston: I do not think that in the experience of the Boston City Hospital, the largest hospital in New England, and one which cares for 10,000 patients a year in its wards, they have had a dislocation of this sort, with one exception. I think Dr. Spalding deserves the thanks of the profession for the great pains he has taken to clear up this case.

DR. J. A. SPALDING: I should like to know if anybody ever heard of a postmortem being held in a malpractice suit. I should also like to say that I hope we shall sometime have before this Academy a discussion on the desirability of insurance against malpractice suits.

(*To be continued*)

MASSACHUSETTS MEDICAL SOCIETY

One Hundred and Twentieth Annual Meeting, held at Boston, June 15-16, 1909

Officers Elected and Committee Reports

The officers elected were given in THE JOURNAL, July 3, page 36. Dr. Frederick H. Gerrish, Portland, Me., was elected Shattuck lecturer for 1910.

Dr. Harold C. Ernst, chairman of the Committee on Medical Education, reported his attendance at the meeting of the Council on Medical Education of the American Medical Association ,and the results as recommended for a desirable medical curriculum. He recommended that the Massachusetts Medical Society endorse the action of the Massachusetts State Examining Board in its pioneer work of causing practical work to be a part of the examination for registration.

Dr. George W. Gay reported for the Committee on Legislation that up to that time no measure opposed by the committee had been enacted by the Massachusetts Legislature.

Dr. Frank G. Wheatley, for the society's Committee on Revision of the U. S. Pharmacopeia, reported that circulars were to be sent to each member of the society asking that all useful drugs in the U. S. P., and all new ones worthy of admission be named. The committee felt this will answer a useful end.

The result of the last meeting of the Legislative Council of the American Medical Association in Washington, D. C., was reported. It was found that advertising quacks and vendors of medicine had been driven from Kentucky and that the work of the physicians in this particular had been ably supported by the Louisville papers, also that no advertising quacks are remaining in North Dakota.

The model vital statistics and pure food laws of the American Medical Association were commended. It was reported that there were two classes of chemists in the United States, one class acting in the interests of the people and the other in the interest of the manufacturers.

Surgical Antiseptics

Dr. Daniel E. Keefe, Springfield: Antiseptics have not always been used in the past with the same intelligence as is possible at present. It can hardly be doubted that irrigation with potassium permanganate or hydrogen peroxid may have been causative of unfortunate results following operations and the lethal result unjustly charged to the surgical procedure. Iodoform is rightly considered as having dangerous features and is less used than formerly. During surgical shock saline infusion is contraindicated, as it still further overloads the already overburdened heart. Overfilling the vessels can do no good until the nerves recover their function. It is most clearly indicated in postpartum hemorrhage or uremia. Strychnin in large doses given frequently—0.002 to 0.006 every three hours —is a fad, and is a reprehensible practice. Laboratory work is aiding us rapidly in passing from darkness to light in all methods of treatment.

Diagnosis of Duodenal Ulcer

Dr. Ernest A. Codman, Boston: This paper is founded on forty-nine proved cases of duodenal ulcer. This lesion is becoming increasingly common, and is more common than gastric ulcer and nearly as common as appendicitis. Perforation and hemorrhage are rightly considered not common symptoms but accidental accompaniments. The diagnosis is rarely made before operation, and is confused with dyspepsia, appendicitis and gastric neuroses. Even with the hand on the stomach cancer of pylorus and cancer of pancreas may be suspected. Males from 20 to 50 years are mostly affected and occupation seems not to be important. It is a disease of hard-working men. Cardinal symptoms are often present, yet may be entirely absent. The ulcer may exist without pain, hemorrhage, perforation or vomiting. One feature is fairly constant, *i. e.*, pain, and diagnosis may often be made from it alone. Pain two hours after meals or attacks before meals, with vomiting, may warrant a provisional diagnosis. Often a patient improves under rest and treatment. Then resumption of work, especially to excess, or the indulgence in alcohol, causes the chain of symptoms again. Relying on, or waiting for, the symptom of hemorrhage is often the cause of failure of diagnosis, but when present and accompanied with hunger pain, is certain. Tenderness is often present and is usually slightly to the right of the ensiform cartilage. Belching is of little value and is a symptom common to other disturbances. Diarrhea and constipation are not important symptoms. Jaundice may occur due to inflammation around duodenum. Vomiting occurs when the pylorus is contracted by stricture, and improves when the stomach is resting. Vomiting comes at the height of the pain. Chemical analysis is of little help, as shown by experience. "Sour stomach" and "heart burn" are of some value in diagnosis and are often present and with pain we can make provisional diagnosis. Autopsy at Massachusetts General Hospital shows 1 per cent of all examinations. In differential diagnosis, gallstones and gastric ulcer must be considered.

Localization of Pain, Tenderness and Hyperalgesia in Diagnosis of Common Abdominal Diseases

Dr. Garry de N. Hough, New Bedford: The local symptoms only are considered in this paper. Clear cases of abdominal trouble are fairly well understood, but there are many obscure ones. In appendicitis, pain, tenderness and rigidity are the usual symptoms. But pain may be on the left side all through the attack, and if the organ is elongated the pain may vary considerable in position. Areas of hyperalgesia in various abdominal diseases are of value but they vary in their presence. Absence is of no value, but presence is positive evidence of certain diseases. These areas may be elicited by using a sharp needle on the abdomen, covering the point with the palmar surface of finger pulp. There are six plain areas of nerve distribution showing the hyperalgesia and corresponding to disturbances of gall bladder, cecum and appendix, ovary and tube, stomach, kidney and ureter. Occasionally one finds atypical areas. In all obscure abdominal lesions one should seek areas of hyperalgesia, which when found do not lead astray.

Acute Dilatation of the Stomach Following Surgical Operation

Dr. Homer B. Smith, Boston: Acute dilatation is not a disease but a complication, and may be concurrent with any medical or surgical disease. Death may be directly due to it. Dilatation occurs most frequently following abdominal operation under general anesthesia. Operations on the biliary apparatus are frequent causative factors, but it may occur after appendix operation. My conclusions, based in part on six personal cases, are that the condition is not always recognized, and treatment, to be effective, must be prompt. The vomitus is usually bile-stained but not fecal, due to the paralysis occurring distal to papilla in duodenum but not much beyond. It is a paralysis of the stomach and upper part of the duodenum and is not mechanical. It can not be stated that the inhibition is central or peripheral. The condition is probably not often caused by trauma. Kelly has blamed the anesthesia. It is not a local but a general paralysis. Paralysis of the vomiting apparatus and a portion of the bowel accompanying it. There is usually no return of paralysis after treatment. Mesenteric ileus may be a secondary effect and due to mechanical defects. Diagnosis is not difficult. Vomiting usually comes on ten or twelve hours after operation, and a leaking or welling up of fluid from the stomach is very suggestive. The stomach tube should be passed early and as often as necessary. Prognosis with early treatment is good. If not treated the mortality reaches 60 per cent. The rectal tube is of value. Operative proceedings are not indicated. This disease is comparatively frequent.

(To be continued)

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-fifth Annual Meeting, held in New York City, May 27-29, 1909

The President, Dr. S. Weir Mitchell, Philadelphia, in the Chair

The officers elected were noted in The Journal, July 10, page 125.

President's Address: Nature of Nerve Force and the Deep Reflexes

Dr. S. Weir Mitchell, Philadelphia: There is a comparative rarity in the proceedings of this body and of other associations of matters of therapeutic interest. The present is the trimphant hour of diagnosis which is the parent of logical, legitimate therapeutics. The physiology and pathology of the negro should receive more attention from neurologists. There is a rarity in the negro of this country of such diseases as chorea, tabes, migraine and exophthalmic goiter. Considering the relation of the black skin to heat and light rays, there must be in the negro some automatic compensatory mechanism for regulating the body temperature other than that which we possess. Therefore, we need for the negro a new and complete study of the blood in order that we may get clearer ideas as to his immunity from such diseases as yellow fever and malaria and help to solve the problems of protection from such diseases by immunizing serum.

The physiology of persons who have lost large parts of the body by multiple amputations is a subject worthy of investigation. Long ago I studied diseases of stumps and the psychics of lost limbs, but the subject in recent years has been neglected.

I will next take up neural energy, its nature and modes of transmission. I use the term neural energy without committing myself to any special theory. The rate of transmission of nerve energy in the ameba and lowest forms of animal life in which it is a general diffusion is only about three feet per second, whereas, in the higher vertebrates, where it moves along chosen pathways, it reaches as high as 150 feet per second. There is an enormous output of energy relative to the small size of the productive sources of supply, as shown by Dr. H. H. Donaldson's contributions. In the adult human brain of 1,360 grams the weight of all the nerve-cell bodies is less than 27 grams. There are nine thousand two hundred million nerve-cell bodies in the new-born babe and the same number in the adult. These occupy one and thirty-seven hundredths of the volume of the cortex; 2 per cent. represents the proportional volume of the cortical cell bodies, including all the dendrons. Many agencies affect the delicately responsive neural conductors and their related centers, those which are most common being related to variations in atmospheric pressure and storm conditions.

These living wires, the nerves, eat, drink and eject and are fed and do work and must therefore undergo chemical changes through loss and for repair. Certain excito-contractile impulses are found in plants and these are probably identical with those observed in animals, as is evidenced by observations on the mimosa. I could well imagine a neurotic crusade against cruelty to plants after watching experiments on the mimosa. The analogue of the irrito-contractile muscle of animal life is in the plant cell walls, which, contracting, expel fluid and thus cause in the leaves mechanical changes of position. Numerous observations and experiments have been made on plants, especially the mimosa, with a view to determining the analogies between the movements of such plants and those occurring in the living animal.

As regards the reinforcement of reflexes the researches of Mitchell and Lewis, Bowditch, Howells and other American contributors to this subject show that not only the hand grasp and other coarse movements tend to increase the muscle-muscle and the skin-muscle response but that nearly every distinct sensation increases them. Sudden light or sound, remotely applied heat, abrupt cold, a pinch, the pull on a single hair add to the response. The explanation of these reinforced phenomena appears to be that the afflux of energy giving increase of the reflex is due to the liberation of energy far in excess of the functional needs of the active organ, that is, an overflow of energy as is shown by observations and investigations. Speaking of the practical applications of this study of overflow, is it not conceivable that there are acquired conditions of the body, neurasthenic and hysteric, in which these endless normal overflows may be mischievously felt and may account for suddenly visible symptoms of nervous excitement? An interesting clinical phenomenon which I believe illustrates the subject of overflow is to be seen in the case of violent facial neuralgia in which talking, laughing or chewing evokes maddening pain. Is this not an example of reinforcement from overflow of related motor centers affecting a sensory ganglion excitably ready to call forth the phenomenon called pain?

Errors in the Diagnosis of General Paresis

Dr. E. E. Southard, Boston: Two hundred and forty-seven cases of mental disease passed through the daily clinics of the Danvers Insane Hospital and later came to autopsy during the years 1904-1908. Sixty-one of these were diagnosed clinically with more or less certainty as cases of general paresis, and 41 of the 61 as absolutely certain. In 35 of the 41 the diagnosis was confirmed at postmortem, and 2 more appeared at autopsy, although unsuspected during life. These 2 unsuspected cases and the 6 erroneously diagnosed cases have been specially studied. Tabes and cerebellar arteriosclerosis, in the presence of mental symptoms, are shown to be two main causes of error in the positive diagnosis.

DISCUSSION

Dr. J. K. Mitchell, Philadelphia: Have any of these cases presented undoubted combination of tabes with general paresis?

Dr. E. E. Southard: Only one of the cases showed a combination of tabes and general paresis, but there were a number in which there was a lesion in the spinal cord plus characteristic changes of general paresis. I think there is a pure tabes associated with paresis.

Sensory Functions (Especially Stereognosis) of the Pre-Rolandic Area

Dr. Herman H. Hoppe, Cincinnati: The object of this paper is to show how often astereognosis occurs in lesions of the motor zone and whether the loss of stereognosis is in any way distinguishable from the loss of this function due to lesions of the parietal lobe. My first case was one of loss of stereognostic sense combined with loss of muscle sense and sense of position. Autopsy showed a non-infiltrating tumor the size of a hen's egg situated subcortically in the superior parietal convolution. My second case was one of subcortical solitary tubercle involving the arm center in the ascending frontal convolution and the neighboring frontal lobe, demonstrated at operation. Prior to operation there was some astereognosis in the right hand, and after operation, which involved the tumor site, astereognosis in the right hand was marked. My third case was one of left brachial monoplegia following Jacksonian seizures without any loss of sensation prior to operation. At operation no gross lesion was found, but, after locating the center for flexion and extension of the hand, this center was excised. Following operation there was complete paralysis of the left arm with complete astereognosis, all other qualities of sensation being intact. The question which arises is whether astereognosis unassociated with loss of tactile and muscle sense would indicate a lesion of the motor zone and astereognosis with loss of tactile sense, muscle sense and sense of position indicate a lesion of the parietal lobe. This question can not be decided by a study of recorded cases, although many cases would seem to answer in the affirmative.

DISCUSSION

Dr. Morton Prince, Boston: The whole question of stereognosis is a matter of fact and not of induction. If there is a disturbance of muscle or tactile sense, it is impossible for anyone to determine what an object is. There are a number of cases on record of asymbolia and stereognosis, meaning by asymbolia loss of power to recognize objects when there has been no loss of tactile sense. The important thing is to determine whether or not there is loss of the sense of position, localization, and so on. Very accurate and careful tests must be made and they must be made by precise methods.

Dr. C. K. Mills, Philadelphia: There are several interesting points in Dr. Hoppe's communication. A number of things in the paper seem to contradict the views which some others as well as myself hold personally. In such cases we have to take information on various points before deciding as to their absolute value. The operative points can not be absolutely depended on with regard to the exact extent of the absolute section and also with regard to the extent of the influence of that section. We have to take into consideration the physiologic reaction along certain anatomic-functional lines. Undoubtedly, the motor region is connected by associated fibers with the stereognostic region if it exists, and also doubtless with sensory regions in the postcentral convolution. We have in these cases the abeyance or the loss of such a sense as stereognosis exists without impairment of the muscle sense or sense of position. To a certain extent it proves not that there is no astereognostic center in the parietal lobe but that by the destruction of entering tracts astereognosis may be produced.

Dr. William G. Spiller, Philadelphia: Dr. Hoppe has said that these disturbances of stereognosis with pain were present only for a short time after operation. They were not persistent. There are other things to be considered in judging of results from operation. Dr. Hoppe has considered the results carefully. We must be careful after operation on the brain in reaching conclusions. Not only is there disturbance of associated areas, but there is also disturbance from handling the brain; there is disturbance in function of that part, and, what is more serious, in excising any portion of a brain it is necessary to tie the veins supplying that portion. As a result of this tying, the circulation is disturbed in adjoining areas of the brain, and softening may occur from this, even if no great number of vessels are tied.

Dr. F. W. Langdon, Cincinnati: As bearing on the existence or non-existence of a special stereognostic center I wish to place on record an observation made ten or twelve years ago. A man was struck by a stone, resulting in a puncture fracture over the parietal region corresponding, presumably, to the arm or hand center. In ordinary tests he could not even feel objects in his hands, but when I put into his affected hand a silver dollar he would say: "That is a half moon." If it was put into the other hand he would say: "That is a dollar." He was illiterate and did not possess sufficient education to speak of a half circle but translated the impression he received from the dollar as "half moon." That would not have corresponded to loss of tactile sense in one finger. It might be called a partial lesion of the stereognostic centers.

DR. B. SACHS, New York City: An experience I have recently had may throw a little light on this subject. A young woman had the general symptoms of brain tumor with very slight involvement of the upper extremity. Aphasia was complete and there was not only asymbolia, but absolute loss of all sense of the muscular movements. In this case the aphasia was by all means the most pronounced symptom. The paresis was so slight that except for detailed examination it might have escaped altogether. The aphasia was the one single symptom. Basing the location on that fact, I suggested that the surgeon go in over the arm center, but that he keep as far posteriorly as possible. There was found a tumor which extended to the central fissure and invaded a considerable portion of the cortex into the parietal region. Within twenty-four hours of the time of operation the aphasia disappeared entirely. The paresis, however, remained exactly the same as before the operation and is practically the same to this day.

(To be continued)

ARIZONA MEDICAL ASSOCIATION

Annual Meeting, held at Prescott, May 19-20, 1909

The officers elected were noted in THE JOURNAL, June 5, page 1843.

The Physician's Duty to the Public

DR. JOHN W. FOSS, Phoenix: The physician is granted certain privileges and certain public exemptions. It should be his duty to teach the youth so that they understand the nutritive and sexual functions and in this way prevent many of the mistakes which are made during adolescent life. Young men and young women should be thoroughly instructed in all the functions necessary for them to understand the exactions devloving on them as parents. The physician should be conversant with all public questions, as the confidence reposed in him as a family physician gives his opinion much weight with those with whom he comes in contact.

Surgical Technic

DR. JOHN B. MCNALLY, Prescott: The surgeon should exercise extreme care not to vitiate aseptic measures by carelessness. Steam under pressure is the best method of sterilization. Open steam fractional method is also recommended. An antiseptic conscience is developed by antiseptic practice.

DISCUSSION

DR. WILLARD SMITH, Phoenix: The surgeon should have as few assistants as possible and as little paraphernalia as convenient. This limits the danger of infection. In my experience more infections occur when strong antiseptics have been used instead of weaker solutions. We should endeavor not to destroy the natural bactericidal qualities of the tissues.

DR. STANLEY STILLMAN, San Francisco: I think the use of rubber gloves in septic cases very essential.

Anterior Poliomyelitis

DR. A. J. ROSENBERRY, Jerome: One-third of the patients applying for treatment of deformity at institutions are suffering from this disease. It is epidemic during the summer, it is contagious, and there is early acute congestion of cord. Structures supplied by the anterior spinal artery are inflamed. In muscles which respond to faradism there is a possibility of recovery. Massage and electricity give the greatest relief.

DISCUSSION

DR. S. STILLMAN, San Francisco: Three months is too short a time in which to give up hope. I have seen positive improvement after eight or nine months' treatment.

DR. BARLOW: It is very important to give the family the prognosis early, otherwise the surgeon is often blamed. With the reaction of degeneration prognosis may be given hopeful but slow.

Infant Surgery

DR. STANLEY STILLMAN, San Francisco: Infants stand surgical operations as well as or better than adults. It is astonishing during the first few weeks of life how much violence the infant can stand. The same immunity does not extend after three or four months. Nevus and harelip are best operated on as soon as discovered. Within three months from birth infants suffer less from shock than afterward, but at any time they resist shock as well as adults. All operations should be done with as small blood loss as possible. There should be no more apprehension of anesthesia in infants than adults. I advocate chloroform. Surgeons should have a skilled anesthetizer for either infants or adults, if possible. Infants do not well stand deprivation of food or reduction of temperature; the operating room should be warm. Repair is rapid, sutures should be removed early. Infants' lives should not be sacrificed by ultraconservatism.

Trachoma

DR. DANIEL W. WHITE, U. S. Indian School, Phoenix: Trachoma causes serious damage to vision and is caused by a micro-organism not yet isolated. Hygienic and sanitary measures are most important in prophylaxis. Trachoma is easily transmitted by hands, the family is the primary vidus of infection. Indians would not be more susceptible than whites if they lived in the same hygienic conditions. Trachoma is found under all climatic conditions. Until the cornea is involved the seriousness of this disease is usually not realized. Prophylaxis is the all-important goal. Copper sulphate stands first as a remedy. In operative treatment expression followed by copper sulphate is best. The period of treatment is from three to eight years. Thoroughness of expression of the follicles is essential. The physician should not wait, but begin treatment at once.

Infections of the Conjunctiva

DR. ANCIL MARTIN, Phoenix: Pneumococcus infection is one of the most common in conjunctivitis. Infections of the conjunctival sack are most dangerous in the abnormal conditions of the eye. Microscopic examinations of the conjunctival secretions is very essential to determine the safety of operative treatment.

Immunity and Tuberculosis

DR. W. WARNER WATKINS, Phoenix: There is relative immunity to tuberculosis. It is possible in a healthy organism to produce immunity. An attack of tuberculosis positively cured, produces a positive immunity to tuberculosis. It also produces immunity in the offspring.

Immunity and Serotherapy in Tuberculosis

DR. JOHN W. FLINN, Prescott: There is a high degree of immunity in cattle to the human tubercle bacilli. The use of living human bacilli to produce immunity is unsafe. The degree of immunity is proportionate to the degree of virulence of the material inoculated.

Rabies, With Report of Cases from Skunk Bites

DR. C. E. YOUNT, Prescott: After careful investigation, I am of the opinion that the skunk is not more the cause of hydrophobia than the dog. It seems that while it is possible for one to have hydrophobia after being bitten by a skunk, the idea has gained ground to such an extent in the Southwest that all skunks are called hydrophobia skunks. This is based on a simple psychical impression and not based on fact.

Differentiation of Reflex Dyspepsias from Primary Organic Diseases of the Stomach

DR. DUDLEY FULTON, Los Angeles: Many dyspepsias are due to other diseases of the body. They are functional rather than organic. It is important to determine whether dyspepsia is functional or organic. Dyspepsia is but little influenced by diet. Pain is exceedingly rare in functional dyspepsia.

Education of the Public

A resolution was passed advising all county societies to inaugurate a series of public lectures for the education of the people in matters pertaining to hygiene and sanitation.

IOWA STATE MEDICAL SOCIETY

Fifty-Eighth Annual Session, held at Dubuque, May 19-21, 1909

(Continued from page 189)

Early Diagnosis of Children's Diseases That Lead to Deformities

Dr. Frederick Mueller, Chicago: The prevention of the deformities in children's diseases that lead to malformations is just as important for the ultimate good result as the application of the orthopedic surgical methods later, because best results can only be expected in patients who reach the orthopedic surgeon in not too neglected a condition. An early diagnosis of such troubles on the part of the general practitioner is indispensable, and it is he who should administer the first aid in all such cases.

DISCUSSION

Dr. C. S. Grant, Iowa City: One of the more common conditions, which unfortunately in this state is not considered common, is rickets. I have seen it in both the breast-fed and the bottle-fed children. In one locality I found a great many cases in families in which the mothers worked in the field. Examination of the milk showed a deficient amount of fat, and my conclusion was that its lack was primarily the cause of rickets. In bottle-fed children, unfortunately, the more common foods are the artificial ones, from which the child receives a great deal of maltose or sugar in some form and very little of the fat or protein. In the case of breast-fed children, when it was impossible to increase the supply of fat through the ordinary methods of feeding and hygiene, I have sometimes attempted feeding by a modification of cow's milk. There is no question but we have neglected the scientific modification of milk too long. Some two or three years ago my attention was called to the use of citrate of soda, with the claim that the alkaline citrates in the milk assisted in the absorption of the rest of the salts. I believe it a much better alkaloid to use than either bicarbonate of soda or lime.

SYMPOSIUM ON TUBERCULOSIS

The Movement Against Tuberculosis in Iowa

Dr. J. W. Kime, Fort Dodge: An educated medical profession is the first essential in our efforts to stamp out this most universal disease. With this accomplished, 4,000 centers of information, 4,000 teachers of the public are at once installed to spread this knowledge throughout the state. The board of control, which is entrusted with the conduct of the educational campaign against tuberculosis in Iowa, is keenly alive to the importance of prevention, early diagnosis and modern treatment, and has sought to stimulate discussion in the various county medical societies on these subjects. I have visited practically every county in the state during the past year, and in my discussion with the medical men on early tuberculosis and its recognition, I have found them well abreast with the times. The board has asked me to meet with the societies the coming year for the purpose of discussing with them the modern treatment of tuberculosis, and I anticipate an even more enthusiastic reception for this subject. The state veterinarian and the State Agricultural College at Ames are rendering excellent service in educating the masses on the subject of animal tuberculosis. The State Board of Health has done great good by its recommendation that all cows be tested with tuberculin before milk may be sold from them; also by urging the passage of antispitting ordinances. I believe that the question of animal tuberculosis, and especially of tuberculosis in dairy herds, has been altogether too lightly considered, and that this disease will continue to spread until we become wise enough to secure milk from cows that are known to be free from disease. During the coming year the work in Iowa will be prosecuted with greater vigor than ever before.

Tuberculin in Treatment of Tuberculosis

Dr. Fred Albert, Mason City: There is no longer any question that large doses of tuberculin, followed by marked reactions, are harmful and dangerous. It is equally true that very small doses, in properly selected cases, when carefully observed, can do no harm, and usually are followed with distinct benefit, irrespective of the kind of tuberculin used and the method of administration followed. We should ever hold in mind that tuberculin therapy is an adjunct and not a substitute for the general hygienic-dietetic treatment. If the patient does well under general treatment and improves rapidly, we can content ourselves without using tuberculin. It was its indiscriminate use on all patients alike when it was first introduced that brought it into such general disfavor. It should be employed (1) in incipient cases, where no ulceration with secondary infection has taken place; (2) in chronic fibroid cases, which run little or no increased temperature; (3) in all localized cases. Some authorities claim it can be used in advanced and incurable cases to great advantage, relieving distressing symptoms. Bacterial vaccines are expected to produce good results in many incipient and chronic cases of pulmonary tuberculosis, and in most localized cases. It will do good in those cases in which there is little absorption of toxins by the system and constitutional disturbances are absent. Tuberculin filtrate is especially indicated in many incipient cases in which there is a mild toxemia. The toxins having been neutralized, the local disease is influenced secondarily by the increased resistance produced by general treatment. Initial doses must be small. When the filtrate is administered to produce toxic immunity, the initial dose is usually 1/1,000 mg. A jump is never made from, say, 1/1,000 mg. to 1/100 mg., but it would require ten doses to pass from one to the other. The interval between injections is usually three or four days, and when the larger doses are reached a week or ten days. If symptoms of intolerance are manifested, the doses must be lessened and given farther apart until these symptoms disappear. The least number of injections which should be required in passing from minimum to maximum dose is about fifty—extending over five or six months; and in many cases it is better that ten or twelve months be covered.

Early Diagnosis of Tuberculosis

Dr. R. E. Conniff, Sioux City: Too much emphasis can not be placed on the importance of early diagnosis in tuberculosis, particularly of the lungs. Indifference on the part of the patient and carelessness on the part of the physician are the principal factors in our failure to detect early evidences of infection. More time, closer study and greater care must be observed in making examinations, as well as a broader application of the knowledge thus obtained. Tuberculosis is a disease closely associated with disturbances of nutrition. Every evidence of lessened vitality, either local or general, should receive most careful consideration and make us mistrustful of possible foci of infection. Physical signs are rarely found in incipient cases. The microscope, once thought necessary to a positive diagnosis, is useless in the early stage of tuberculosis. There is no typical or diagnostic symptom in this stage of the disease, but a careful consideration of the "symptom complex" will reveal enough evidence to make the diagnosis positive in most cases, if the physician will insist on repeated examinations and compare carefully the findings at each sitting, bearing in mind always the slow development and the non-irritating character of unmixed tuberculous infection. The tuberculin test as a diagnostic is rapidly growing in favor, a large number of physicians finding it more helpful each succeeding year in clearing up doubtful cases. It should be carefully and intelligently used, in connection with other methods of arriving at positive knowledge, which will aid us, after weighing carefully all the evidences offered, in making the earliest possible diagnosis.

Pathology of Tuberculosis

Dr. E. W. Meis, Sioux City, discussed the early pathologic changes in tuberculosis, beginning at the entrance of the bacillus and following the tissue changes to the point of beginning cavitation; also the favorable changes which take place when arrest occurs, and treated of the various methods of repair. He described the route of infection and morphology and nature of the tubercle bacillus, and touched on the body resistance to the disease.

Discussion on Tuberculosis

Dr. A. L. Wright, Carroll: There are 10,000 people in Iowa to-day suffering from tuberculosis, and the death rate is estimated, I believe, at 2,500 *per annum*. It is estimated by statisticians that of those now living in the United States 5,000,000 will die with tuberculosis. I present these figures simply to emphasize the frightful mortality accompanying tuberculosis, which all the essayists have touched on. I think diagnosis must be based on the more general use of tuberculin at a period when there are no physical signs. Then we can expect to accomplish a cure in most cases; not when the lung is beginning to show evidence of invasion.

Dr. Pauline Myers-Townsend, Marshalltown: In America it seems to me we need to call much more attention to industrial insurance. Germany has led so far in the placing of responsibility on the industries where the conditions are such as to favor tuberculosis. Our physicians should be a potent factor in educating the American people on employers' liability acts and general industrial insurance.

Dr. Edward Hornibrook, Cherokee: In an old treatise on consumption, published in the last century (I think by Thompson), is mentioned one symptom, which is stated by the author as pathognomonic in the early stages of consumption, and nowhere else have I seen it. I have tested it in almost every case of consumption or suspected consumption that has come under my notice for nearly half a century, and I am anxious that my professional brethren also give it a test. The author says that if you take a consumptive patient and one that is not consumptive, count their pulses in report, and then set them both to take active exercise, the person who has not consumption will have a much greater increase in the pulse rate than the patient who has consumption. The usual rate of increase that I have found in women not too robust in walking three or four times across my office, going down stairs and coming up again pretty rapidly, is about thirty beats a minute. In the consumptive, if not too much debilitated, as they are not in the early stages, the increase will not be over ten beats. Another sign that not much stress is laid on in the modern text-books is prolonged expiration. I have always found it—not exactly in the first stage, but before the disease is very far advanced. In my opinion, it is an error to put off the diagnosis until one can demonstrate by physical signs or by instruments of precision. If suspicious, the physician should tell the patient candidly that he is in doubt, but that the treatment he is going to give will prevent consumption if it can be prevented. Put the patient on the best hygienic treatment, and he will recover whether he has consumption or not.

Dr. W. H. Dewey, Moville: It is not a difficult thing for the country physician to get people to cooperate with him heartily in providing open rooms adjoining the house for the accommodation of their afflicted ones. Of course the sanatorium gives these patients many conveniences that can not be provided for at home, but patients away from home are often homesick, and there are so many things that militate against the advantages to be found at the sanatorium that sometimes they are almost entirely overcome.

Fallacies in Preventive Medicine

Dr. B. L. Eiker, Leon: Educate the masses of the people so that they understand the dangers incident to the common infectious diseases. This has been accomplished with tuberculosis, and in like manner can be accomplished with other diseases of the same class. Petty jealousies and local prejudice among the physicians of the state have done much to retard the progress of preventive medicine. The cause of much trouble and endless loss of life is frequently brought about by hasty diagnosis made when no man, however skilled, can tell to a certainty the true nature of the malady. Local boards of health are negligent in their duty as sanitarians, and labor under the impression that a dollar saved to the town treasury is worth more than the lives of their neighbors' children. Laws, rules and ordinances are not needed in Iowa so badly as a campaign of education along the lines of preventive medicine. Educate the people and they will formulate their own rules and observe them.

SYMPOSIUM ON OPHTHALMIA NEONATORUM IN IOWA TO-DAY, WITH A CONSIDERATION OF PROPHYLAXIS.

Ophthalmia Neonatorum: Cause, Prevalence and Prophylaxis

Dr. L. W. Dean, Iowa City: Blennorrhea neonatorum is an infectious conjunctivitis developing usually on or before the third day after birth, never after the fifth. Most cases are the result of infection in the eyes of the child by the secretion from the diseased genitals of the mother, the micro-organisms gaining entrance into the conjunctival sac as soon as the child opens its eyes. Generally the gonococcus infections are most severe, but the severity of the infection is never an absolute indication as to the germ concerned. In 1906, 183,012 births were registered in the state of New York, this disease appearing in one out of every 200 births. One-quarter of all the blind children in all the blind schools of this country are blind because of this disease. In 1881 Professor Credé of Leipsic announced the important discovery that a single drop of a 2 per cent. solution of nitrate of silver dropped into each eye of a new-born infant, would destroy the germs of ophthalmia neonatorum where they existed, and would not injure the sight of healthy eyes. The value of this discovery is now accepted by all physicians of standing, who use nitrate of silver, or derivatives of the silver salts as part of their routine practice in confinement cases. Prophylactic measures at the time of birth are so simple and so devoid of danger in using that neglect to carry out this procedure seems almost a crime.

The Cost of Ophthalmia Neonatorum in Iowa To-day

Dr. A. R. Amos, Des Moines: There is no doubt that the chief concern of the state and community in the blindness of ophthalmia in the new-born is an economic one. The public asks the question, how much does it cost us to maintain these persons? Notwithstanding, there is a moral cost to the community outside the family of the blind, not to be overlooked. Of all cares of the state the education of its blind children is both the most hopeless and most expensive. If we shall look, however, to the economic loss nearer home, it will be found that the cost of blindness to families is very great. The man groping his way about, or staring with bent brows to see his work, is seriously handicapped. The woman, still more unfortunate, may find her fortune seriously marred by the ugly scar of infancy, as her character is sullied by its unsightly appearance.

The Practical Aspects of Prevention of Ophthalmia Neonatorum

Dr. R. M. Lapsley, Keokuk: A line should be required on each birth certificate, stating condition of eyes at birth, and also what prophylactic, if any, had been used. All cases of ophthalmia neonatorum should be at once reported to the authorities, and if the case has been handled by any one other than a physician, the case should be put under treatment of a physician. Such a law is now on the Iowa statutes, but has not been enforced, and some penalty should be devised for disregarding it. The people in general need to know that the baby may acquire a disease in its earliest infancy that will endanger its eyesight. A record of number of births and number of cases should be kept by the State Board of Health; and it would be well to have a report of all unfavorable results when the disease was healed. The extra expense would be small, and is well justified, because a permanent check on the usefulness of the system would always be at hand.

Résumé of Ophthalmia Neonatorum

Dr. E. R. Lewis, Dubuque: Agitation presupposes at least two things on the part of the agitators: dissatisfaction with existing conditions, and belief in their ability to better them. We are appearing as agitators sincerely. The prevention of this disease requires no expensive armamentarium, no costly drugs, no time-consuming special attention, no special technical skill. It is the plain duty of the state to maintain supervision over conditions influencing the health of its citizens and to prevent all possible disease. If state prophylaxis of ophthalmia neonatorum is to be instituted, it would fall naturally into the hands of the State Board of Health. From this board must come the regulations concerning the use of prophylactics, and to it must be left the enforcement of such regulations. The existence of a dead-letter law is a reproach to the citizens of a state. Let such laws as are passed carry with them penalties sufficiently severe to insure their strict observance. The experience of Massachusetts and New York in this matter is sufficient justification for this demand. Last year the Iowa State Medical Society, in common with most other state medical societies, appointed a committee to take up the matter of the prevention of ophthalmia neonatorum in the state. It has seemed to this committee advisable to recommend taking steps to secure accurate and complete data in regard to this disease in Iowa, for the obvious reason that up to the present we have had no means of ascertaining anything definite regarding it. The means of securing these data is already in our hands, in the birth certificates, to which it would be necessary to add only a few lines. Revocation of license to practice should be the penalty for repeated neglect to use prophylaxis or for false entries on the birth certificate. Prophylactics deteriorate with age and exposure to light. It seems advisable, therefore, that the state should furnish free to physicians, midwives and nurses small containers of fresh prophylactic. The cost of providing silver nitrate in special light-proof ampoules for the whole state of New York does not exceed $3,000 annually. Inasmuch as many births are attended by midwives or maternity nurses, provisions should be made for their special supervision, including the issuance by the State Board of Health of a circular of instructions in regard to the care of the eyes of the new-born. Attendants should be required to report ophthalmia neonatorum as a communicable disease, and provision should be made for bacteriologic examination of suspected secretions on application to the local health physician.

Medicolegal

"Abortion" and "Miscarriage" Synonymous

The Supreme Court of Colorado says that it was argued in Marmaduke vs. People, where the party named was held to answer the charge "of attempt to procure an abortion," that such charge was not a criminal offense, as under the statute of that state there can be no crime for attempt to procure a miscarriage or abortion unless it appears that the attempt was on a woman with child. It is quite true that such facts are essential elements to constitute the offense; yet the word "abortion" has a distinct and definite meaning when used in judicial proceedings that necessarily implies all such essential elements. While the statute referred to does not use the word "abortion," yet it does use its synonym, "miscarriage." "The word 'abortion' is synonymous and equivalent to 'miscarriage' in its primary meaning." Mills vs. Commonwealth, 13 Pa. 631, 633. "'Procuring an abortion,' in common language, means substantially the same as procuring a miscarriage." State vs. Crook, 16 Utah, 212. Bouvier in defining "miscarriage" says: "The expulsion of the ovum or embryo from the uterus within the first six weeks after conception. Between that time, and before the expiration of the sixth month, when the child may possibly live, it is termed abortion. When the delivery takes place soon after the sixth month, it is denominated premature labor. But the criminal act of destroying the fetus at any time before birth is termed, in law, procuring miscarriage. Chitty, Med. Jur., 410; 2 Dungl. Hum. Phys. 364." Therefore, it is clearly evident that "abortion" is "miscarriage," and the two words in law are synonymous.

In the case before the court the words used not only implied a criminal offense, but were the ordinary and usual designation of such crime even by the courts and text-writers. While it is true that many abortions might be attempted or even procured without the commission of any crime or offense whatever, yet a certain kind of attempted abortion is a criminal offense and punishable as such, and, a recognizance or bond requiring the principal to appear and answer unto the people for an attempt to procure an abortion, it must be understood that he was charged with the criminal offense.

From time immemorial abortion has been a crime, and by the judicial law of Moses, if mischief followed, the act was punishable with death. Exodus, c. xxi, vs. 22, 23. Under the common law, and likewise under the Colorado criminal procedure and practice, "abortion" is the technical and common name for a particular crime, as much so as rape or seduction are for others.

Hospital for Insane in Residence Neighborhood not Necessarily a Nuisance

The First Appellate Division of the Supreme Court of New York says that the complaint in the case of Heaton, et al., vs. Packer, et al., alleged that the plaintiffs owned and occupied lands suitable and valuable for residence purposes only, in a high-class residential portion of the city of New York, adjoining property owned by the defendants; that the defendants had purchased their lands referred to for the purpose of establishing, and were erecting and altering the buildings thereon for the purpose of using them for a hospital for the insane, and the housing, keeping and caring for a large number of insane persons. The complaint further set forth a large number of dangerous and disagreeable things which would occur from the establishing and maintaining of such a hospital for the insane, among others, that it would greatly depreciate the value of the plaintiff's property for residental purposes, and destroy the neighborhood as a residental section, and make it dangerous for women and children to go on the streets adjacent to the hospital, and make the residents nervous and ill from seeing unseemly sights and hearing unseemly noises. The relief asked was, not that the defendants should be restrained from the further erection and alteration of buildings, but that they should be restrained from using them for the purposes of maintaining a hospital for the insane. The defendants demurred to the complaint on the ground that it failed to state a cause of action. The court is of the opinion that the demurrer should have been sustained.

Hospitals and insane asylums are necessities, and, while they may be so conducted in certain localities as to become nuisances, they are not nuisances in and of themselves. If all should actually happen which the plaintiffs imagined would happen, possibly they might have good cause for complaint. The defendants' institution, however, might be so constructed and so managed that none of the evils which the plaintiffs apprehended would ever occur. While the establishment of a lunatic asylum in the plaintiffs' neighborhood might not be a desirable thing, still the evils apprehended did not necessarily arise from its maintenance, and were not inherent to it, like those coming from a slaughter house, for example.

The rule sanctioned by the authorities and the text-books with respect to the restraining of an apprehended nuisance by temporary or permanent injunction is that an injunction will not be granted unless it is apparent or inevitable that the proposed use of the property will actually result in a nuisance.

Evidence Where Insanity Is Defense

The Supreme Court of Florida says, in Johnson vs. State, that all persons are presumed to be sane; and when insanity at the time of committing an alleged offense is relied on as a defense, and the evidence for the state does not raise a reasonable doubt as to the sanity of the defendant when the offense was committed, it is incumbent on the defendant to submit evidence sufficient to raise a reasonable doubt of his guilt.

The Florida statute authorizing the examination of persons to be committed to the State Hospital for the Insane does not contemplate an inquiry into the responsibility of persons for crimes committed, and an adjudication of insanity preparatory to commitment to the hospital is not a proper matter for consideration in a trial for a crime.

Likewise, a certificate of the superintendent and physician of the State Hospital for the Insane that the defendant was in 1908 "discharged from the hospital by order of the examining board, he not being insane," was not admissible in evidence on the issue of insanity at the commission of the alleged offense in 1900.

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9. **New Contagious Exanthem.**—Watson discusses fully the clinical history of seventy-five cases of an exanthematous disease which he believes to be neither measles nor scarlet fever, but a possible "fifth disease." It has an incubation period of from 17 to 21 days. It is not contagious at all until peeling takes place; the desquamate is sometimes very profuse, but its germ is short lived. Patients are much more comfortably sick than they are with scarlet fever. Sickness does not usually last longer than three days when complications are absent. It has complications and sequelæ. Patient should be kept quiet for two weeks to prevent them. There is no chance of mixed infection in any of the cases. Some of the severest cases sprang from an initial mild case. Opinions of health officials (both state, town and nearby towns) vary as to the disease. It was generally regarded as very mild. Result: lax quarantine and spread of the disease. Several patients had already had scarlet fever, measles and German measles, but were not immune to this disease. The bacteriology, still incomplete, shows that the germs present have little vitality. It has no long-continued bad after-effects like scarlet fever. In the cases discussed there were no fatalities from the disease. The disease should be rigidly quarantined until desquamation ceases. It is not necessary to quarantine other members of the family, as the disease does not appear to be transmissible through the agency of a third person, nor is it necessary to quarantine so long as in scarlet fever.

11. **Resuscitation After Relative Death.**—Since Neihaus first employed cardiac massage on a patient in 1880, 39 other cases have been reported in which this or a similar measure has been tried. Metcalf adds 4 to this number. Of these 44 cases, 33 have been instances of syncope from anesthesia: 24 times chloroform, 6 times ether, once a mixture; 2 times the anesthetic has not been mentioned. Aside from the accidents of anesthesia, massage has been practiced 11 times, as follows: Pulmonary embolism, 1; suicide by hanging, 1; incision of postpharyngeal abscess, 1; diphtheria, 1; acute dilatation of the heart, 1; tracheal asphyxia, 2; traumatic injury of brain, 2; electric shock, 2. Of the 44 cases, 9 have met with complete success in that permanent recovery has been secured after relative death; 8 have been partly successful; the remaining 27 have been failures. Of the 9 recoveries, 4 have followed death from ether, 3 from chloroform, 2 from an anesthetic not specifically mentioned. Of the 8 temporary recoveries, 5 have followed death from chloroform, 1 from tracheal asphyxia, 2 from injury to the brain. It seems reasonable to conclude that in cases of relative death from an anesthetic, from asphyxia, from drowning or from electrocution, we should employ more than ordinary methods in attempting resuscitation. It is probable that Crile's method of thoracic pressure and intra-arterial infusion offers the greatest chance of success.

New York Medical Journal

July 3

17 *Complications of Malarial Fever. J. M. Swan, Philadelphia.
18 Is Seven Day Fever of Indian Ports only Sporadic Dengue? L. Rogers, Calcutta, India.
19 *Histologic Changes of the Spinal Cord in Pernicious Anemia Apropos of a Case with Diffuse Degeneration. A. Gordon, Philadelphia.
20 *Solid Carbon Dioxid in Lupus Erythematosus: A New and Successful Method of Treatment. W. S. Gottheil, New York.
21 *Treatment of High Dorsal Pott's Disease. W. E. Gallie, Toronto, Canada.
22 Bandages and Spectacles in Diseases of the Eye. N. B. Jenkins, New York.
23 Treatment of Diabetes as an Infectious Disease. A. King, Portland, Me.
24 Vaccine Therapy in Genitourinary Infection. E. G. Ballenger, Atlanta, Ga.

17. Abstracted in THE JOURNAL, May 1, 1908, p. 1448.

19. **Pernicious Anemia.**—The salient features from Gordon's case from a clinical standpoint are: The anemia, which developed after a profuse bleeding; the spinal cord symptoms, which gradually made their appearance two years later; finally the incidental influenza, which was followed by pulmonary tuberculosis. The prominent anatomic changes are a diffuse degeneration of the spinal cord, affecting not only the posterior columns, but also the lateral motor and sensory tracts and the anterior portions of the white substance of the cord.

When a comparison is drawn between the present case and those recorded by other observers similar and dissimilar points can be traced. Clinically, in the majority of cases the symptoms referable to a disease of the cord are slight. In a number of instances the histologic changes were found accidentally in patients who died from anemia. The clinical symptoms are therefore often overlooked. In Gordon's case the manifestations during life were marked. The cord symptoms developed gradually and began to make their appearance two years later after the onset of the profound anemia. The evolution of the symptoms was decidedly progressive. The relation between the pernicious anemia and the involvement of the spinal cord was evidently direct, the former commenced four years ago, gradually became more and more pronounced, and two years later sensory and motor symptoms, also sphincter manifestations, made their appearance. The course of the disease was chronic from the beginning to the end; at no time did any of the cord symptoms show an acute onset or acute development. As to the individual nervous symptoms, there was particularly notable syringomyelic dissociation in the upper extremities. Pain, heat and cold were not perceived by the patient, and in some areas heat was taken for cold, and vice versa. This phenomenon has not been observed in any of the cases reported, and anatomically it corresponds to a genuine involvement of Gowers' tract, more on one side than on the other.

20. **Solid Carbon Dioxid in Lupus Erythematosus.**—During the last two years Gottheil has employed only the solid carbon dioxid in treatment of lupus erythematosus, and has found it very effective. Being a solid body it can be whittled into any desired shape. The strength and amount of application can be gauged with the utmost nicety by varying the time and the pressure. Solid carbon dioxid, however, has further advantages. It is a cold cautery, and therefore an anesthetic cautery. This is a most important point. While other efficient cauterizing agents, almost without exception, are so painful that, save with patients of considerable fortitude, a local anesthetic at least is required when they are used, carbon dioxid can be employed on women and children without any trouble at all. The intense cold itself is a local anesthetic. The pain at the time of the application is trivial; a few minutes later there is a moderate amount of burning similar to that after a frostbite. This wears off entirely in an hour or two.

21. **Treatment of High Dorsal Pott's Disease.**—The plan of treatment described by Gallie was devised as a means of getting over the mechanical difficulty presented. The idea involved is the lengthening of the short upper lever by adding to it the cervical spine. Inasmuch as it is impossible to apply pressure on the front of the neck, owing to the presence of the larynx and vessels, the splint must be extended up to the head and preferably to the forehead and occiput. It consists of a plaster jacket extending from the pelvis to the head, leaving free the arms and exposing the face, ears and part of the chest. It conforms to the principles laid down for the treatment of tuberculosis of bone, in that it provides fixation to the parts, prevents increase of the deformity, and when applied with moderate hyperextension of the spine above and below the kyphosis causes the deformity to diminish.

The plan has been given a thorough trial extending over a period of two years, and so far results have been most gratifying. All the patients have shown marked improvement, the acute symptoms disappearing rapidly after the application of the first jacket. In no case has the deformity increased and in practically all there has been a diminution of the kyphosis. The general plan of management of these patients includes both recumbent and ambulatory treatment. Although the jacket gives excellent support to the spine, nevertheless the patient is kept in bed six months or more as an extra precaution. After that, if there is reasonable improvement, he is allowed up. The length of time he will need to wear the jacket has not been definitely determined as yet.

Lancet-Clinic, Cincinnati

June 19

25 *Conquest of the Tropics for the White Race. W. C. Gorgas, Ancon, Canal Zone.
26 Pr[illegible] e Family Physician in the Early Tuberculosis. F. M. Pottenger,
27 Treatment and Management of Strabismus. V. Ray, Cincinnati.
28 *Tachycardia from Cholecystitis with Section of Gall Bladder. B. Holmes, Chicago.

June 26

29 The Cutaneous Tuberculin Reaction. J. L. Tuechter, Cincinnati.
30 Disease of the Labyrinth: Report of a Case. K. L. Stoll, Cincinnati.
31 Psoriasis. J. V. Shoemaker, Philadelphia.

25. Published in THE JOURNAL, June 19, 1909, p. 1967.

28. **Tachycardia from Cholecystitis.**—Holmes reiterates his belief that drainage of the gall bladder is frequently indicated in myocarditis because tachycardia myocarditis is often due to a toxemia from cholecystitis with or without gallstones. The exact source of the toxic elements is not known to Holmes, but seems to originate in the gall-bladder wall or in changes in the bile due to contact with the excretions of the sick mucosa of the gall bladder. The toxins may be absorbed in the intestines or by the diseased mucosa of the gall bladder. The uniform enlargement of the lymph glands near the head of the pancreas to which the gall bladder is tributary seems to point to this possibility. The toxicity of a stone-carrying gall bladder seems less pronounced than that of the thickened gall bladder without stones. The end-result of the stoneless cholecystitis seems to be "brown atrophy" of the heart and

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16 Analogies Between Malaria and Syphilis. W. H. Deaderick, Marianna, Ark.

6. **Modern Obstetric Practice.**—Reynolds is emphatic in asserting that *most women are the better off for some sort of care in labor, but we must differentiate between the different* classes of assistance. He estimates that 75 per cent. of all women are definitely the better for trained attendance in labor in minor ways: the care of the perineum, the hurrying of labor by proper management of the membranes, the occasional use of anesthesia, and the many small attentions which are the common property of the profession to-day. At least 60 per cent. of primiparæ have more favorable, less exhausting labors, and better convalescences, if the head is lifted over the perineum by the low application of forceps, and everybody knows that the percentage of stillbirths is less in cases treated in this way than after long perineal stages. It is also probable that from 10 to 15 per cent. or more of multiparæ are the better for having a short perineal stage under the use of low forceps. On the other hand, it is difficult, if not impossible, to estimate the percentage of all cases in which modern obstetrics advocates the use of high extractions, but the number of even these cases will certainly be much larger than the old-fashioned 5 per cent. pathologic labors which needed some attention. Much, he says, must depend on the operative ability of the obstetrician and on his capacity for planning out the campaign tentatively beforehand. When the consultant is called in after progress has failed, he is confronted by difficulties and dangers which ought never to have been allowed to arise, and whenever there is reasonable anticipation of difficulty and of a necessity for a consultant, he has a right to ask, and the patient has a right to demand, that he should be called in not after trouble is already present, but before the patient ever goes into labor. This does not mean that the general practitioner must yield up his obstetric practice. It does mean that when he has beforehand the instinct that the given case may not improbably prove a difficult one, he should not wait for blind luck in labor and the unfortunate results which are sure to attend it in a large percentage of such cases, but should avail himself of that mere suspicion to avoid the greater proportion of his difficulties and dangers by sufficiently careful examination beforehand, either by himself, if he feels equipped for it, or by a consultant, and further, that he should cultivate that instinct of coming danger by careful study of his pregnant cases. The use of a consultant during pregnancy should not, however, mean that the general practitioner necessarily turns over the case, but usually that he will enter on its care himself, fortified by consultation and with a better plan of management than he individually might have obtained for himself. It means, in other words, that he should treat his obstetric practice as he treats the rest of his business, availing himself of advice in all cases which he thinks may promise difficulty, and turning over to the specialist, or working in conjunction with him, only in those cases which he sees reason to believe will be the better for exceptional skill, and which it is not advisable for him to attend alone.

9. **New Contagious Exanthem.**—Watson discusses fully the clinical history of seventy-five cases of an exanthematous disease which he believes to be neither measles nor scarlet fever, but a possible "fifth disease." It has an incubation period of from 17 to 21 days. It is *not* contagious at all until peeling takes place; the desquamate is sometimes very profuse, but its germ is short lived. Patients are much more comfortably sick than they are with scarlet fever. Sickness does not usually last longer than three days when complications are absent. It has complications and sequelæ. Patient should be kept quiet for two weeks to prevent them. There is no chance of mixed infection in any of the cases. Some of the severest cases sprang from an initial mild case. Opinions of health officials (both state, town and nearby towns) vary as to the disease. It was generally regarded as very mild. Result: lax quarantine and spread of the disease. Several patients had already had scarlet fever, measles and German measles, but were not immune to this disease. The bacteriology, still incomplete, shows that the germs present have little vitality. It has no long-continued bad after-effects like scarlet fever. In the cases discussed there were no fatalities from the disease. The disease should be rigidly quarantined until desquamation ceases. It is not necessary to quarantine other members of the family, as the disease does not appear to be transmissible through the agency of a third person, nor is it necessary to quarantine so long as in scarlet fever.

11. **Resuscitation After Relative Death.**—Since Neihaus first employed cardiac massage on a patient in 1880, 39 other cases have been reported in which this or a similar measure has been tried. Metcalf adds 4 to this number. Of these 44 cases, 33 have been instances of syncope from anesthesia: 24 times chloroform, 6 times ether, once a mixture; 2 times the anesthetic has not been mentioned. Aside from the accidents of anesthesia, massage has been practiced 11 times, as follows: Pulmonary embolism, 1; suicide by hanging, 1; incision of postpharyngeal abscess, 1; diphtheria, 1; acute dilatation of the heart, 1; tracheal asphyxia, 2; traumatic injury of brain, 2; electric shock, 2. Of the 44 cases, 9 have met with complete success in that permanent recovery has been secured after relative death; 8 have been partly successful; the remaining 27 have been failures. Of the 9 recoveries, 4 have followed death from ether, 3 from chloroform, 2 from an anesthetic not specifically mentioned. Of the 8 temporary recoveries, 5 have followed death from chloroform, 1 from tracheal asphyxia, 2 from injury to the brain. It seems reasonable to conclude that in cases of relative death from an anesthetic, from asphyxia, from drowning or from electrocution, we should employ more than ordinary methods in attempting resuscitation. It is probable that Crile's method of thoracic pressure and intra-arterial infusion offers the greatest chance of success.

New York Medical Journal

July 3

17 *Complications of Malarial Fever. J. M. Swan, Philadelphia.
18 Is Seven Day Fever of Indian Ports only Sporadic Dengue? L. Rogers, Calcutta, India.
19 *Histologic Changes of the Spinal Cord in Pernicious Anemia Apropos of a Case with Diffuse Degeneration. A. Gordon, Philadelphia.
20 *Solid Carbon Dioxid in Lupus Erythematosus: A New and Succcessful Method of Treatment. W. S. Gottheil, New York.
21 *Treatment of High Dorsal Pott's Disease. W. E. Gallie, Toronto, Canada.
22 Bandages and Spectacles in Diseases of the Eye. N. B. Jenkins, New York.
23 Treatment of Diabetes as an Infectious Disease. A. King, Portland, Me.
24 Vaccine Therapy in Genitourinary Infection. E. G. Ballenger, Atlanta, Ga.

17. Abstracted in The Journal, May 1, 1908, p. 1448.

19. **Pernicious Anemia.**—The salient features from Gordon's case from a clinical standpoint are: The anemia, which developed after a profuse bleeding; the spinal cord symptoms, which gradually made their appearance two years later; finally the incidental influenza, which was followed by pulmonary tuberculosis. The prominent anatomic changes are a diffuse degeneration of the spinal cord, affecting not only the posterior columns, but also the lateral motor and sensory tracts and the anterior portions of the white substance of the cord.

When a comparison is drawn between the present case and those recorded by other observers similar and dissimilar points can be traced. Clinically, in the majority of cases the symptoms referable to a disease of the cord are slight. In a number of instances the histologic changes were found accidentally in patients who died from anemia. The clinical symptoms are therefore often overlooked. In Gordon's case the manifestations during life were marked. The cord symptoms developed gradually and began to make their appearance two years later after the onset of the profound anemia. The evolution of the symptoms was decidedly progressive. The relation between the pernicious anemia and the involvement of the spinal cord was evidently direct, the former commenced four years ago, gradually became more and more pronounced, and two years later sensory and motor symptoms, also sphincter manifestations, made their appearance. The course of the disease was chronic from the beginning to the end; at no time did any of the cord symptoms show an acute onset or acute development. As to the individual nervous symptoms, there was particularly notable syringomyelic dissociation in the upper extremities. Pain, heat and cold were not perceived by the patient, and in some areas heat was taken for cold, and *vice versa.* This phenomenon has not been observed in any of the cases reported, and anatomically it corresponds to a genuine involvement of Gowers' tract, more on one side than on the other.

20. **Solid Carbon Dioxid in Lupus Erythematosus.**—During the last two years Gottheil has employed only the solid carbon dioxid in treatment of lupus erythematosus, and has found it very effective. Being a solid body it can be whittled into any desired shape. The strength and amount of application can be gauged with the utmost nicety by varying the time and the pressure. Solid carbon dioxid, however, has further advantages. It is a cold cautery, and therefore an anesthetic cautery. This is a most important point. While other efficient cauterizing agents, almost without exception, are so painful that, save with patients of considerable fortitude, a local anesthetic at least is required when they are used, carbon dioxid can be employed on women and children without any trouble at all. The intense cold itself is a local anesthetic. The pain at the time of the application is trivial; a few minutes later there is a moderate amount of burning similar to that after a frostbite. This wears off entirely in an hour or two.

21. **Treatment of High Dorsal Pott's Disease.**—The plan of treatment described by Gallie was devised as a means of getting over the mechanical difficulty presented. The idea involved is the lengthening of the short upper lever by adding to it the cervical spine. Inasmuch as it is impossible to apply pressure on the front of the neck, owing to the presence of the larynx and vessels, the splint must be extended up to the head and preferably to the forehead and occiput. It consists of a plaster jacket extending from the pelvis to the head, leaving free the arms and exposing the face, ears and part of the chest. It conforms to the principles laid down for the treatment of tuberculosis of bone, in that it provides fixation to the parts, prevents increase of the deformity, and when applied with moderate hyperextension of the spine above and below the kyphosis causes the deformity to diminish.

The plan has been given a thorough trial extending over a period of two years, and so far results have been most gratifying. All the patients have shown marked improvement, the acute symptoms disappearing rapidly after the application of the first jacket. In no case has the deformity increased and in practically all there has been a diminution of the kyphosis. The general plan of management of these patients includes both recumbent and ambulatory treatment. Although the jacket gives excellent support to the spine, nevertheless the patient is kept in bed six months or more as an extra precaution. After that, if there is reasonable improvement, he is allowed up. The length of time he will need to wear the jacket has not been definitely determined as yet.

Lancet-Clinic, Cincinnati

June 19

25 *Conquest of the Tropics for the White Race. W. C. Gorgas, Ancon, Canal Zone.
26 Practical Suggestions for the Family Physician in the Early Recognition of Pulmonary Tuberculosis. F. M. Pottenger, Monrovia, Cal.
27 Treatment and Management of Strabismus. V. Ray, Cincinnati.
28 *Tachycardia from Cholecystitis with Section of Gall Bladder. B. Holmes, Chicago.

June 26

29 The Cutaneous Tuberculin Reaction. J. L. Tuechter, Cincinnati.
30 Disease of the Labyrinth: Report of a Case. K. L. Stoll, Cincinnati.
31 Psoriasis. J. V. Shoemaker, Philadelphia.

25. Published in The Journal, June 19, 1909, p. 1967.

28. **Tachycardia from Cholecystitis.**—Holmes reiterates his belief that drainage of the gall bladder is frequently indicated in myocarditis because tachycardia myocarditis is often due to a toxemia from cholecystitis with or without gallstones. The exact source of the toxic elements is not known to Holmes, but seems to originate in the gall-bladder wall or in changes in the bile due to contact with the excretions of the sick mucosa of the gall bladder. The toxins may be absorbed in the intestines or by the diseased mucosa of the gall bladder. The uniform enlargement of the lymph glands near the head of the pancreas to which the gall bladder is tributary seems to point to this possibility. The toxicity of a stone-carrying gall bladder seems less pronounced than that of the thickened gall bladder without stones. The end-result of the stoneless cholecystitis seems to be "brown atrophy" of the heart and

central arteriosclerosis followed by general peripheral arteriosclerosis. The drainage of the gall bladder gives immediate relief, and its long-continued drainage, six weeks or more, permanent betterment. The operation should be performed rapidly under local anesthesia or ether.

Virginia Medical Semi-Monthly, Richmond

June 11

32 Insanity: The Home Treatment of the Patient. P. C. Hunt, Washington, D. C.
33 Importance of Early Attention to Obstructive Respiration in Children. J. A. White, Richmond, Va.
34 *An Unusual Case of Puerperal Eclampsia. J. H. Hiden, Pungoteague, Va.
35 Gastric Ulcer. M. O. Burke, Richmond.
36 The Ureter—Anatomy and Pathology. B. M. Ricketts, Cincinnati.
37 Scarlet Fever. J. A. Owen, Turbeville, Va.
38 Change of Base. W. Waugh, Chicago.

June 25

39 Diagnosis and Treatment of the Early Stages of Hip Disease. A. R. Shands, Washington, D. C.
40 Extent and Importance of Venereal Diseases in the Social Body. F. T. Simpson, Hartford, Conn.
41 How should we Determine Errors of Refraction, and What is their Actual Relation to General Conditions. O. Wilkinson, Washington, D. C.
42 Tuberculous Hip-Joint Disease. L. Sexton, New Orleans.
43 *Editorial Revision of Titles of Medical Papers.* F. H. Garrison, Washington, D. C.

34. **An Unusual Case of Puerperal Eclampsia.**—Hiden's patient was only 12 years old, and when first seen was suffering severely from dropsy of face, hands, legs, feet and vulva. Diuresis and catharsis proved ineffective. Labor soon set in, was rapid, accompanied by seventeen convulsions, and terminated with the patient in coma. The immediate treatment consisted of the administration of morphin, veratrum viride, calomel, jalap, bromid of potash and chloral hydrate, pushed to the limit of tolerance. After the completion of delivery, the patient was soon put into a hot, wet pack and steamed for three hours; and after four hours' interval, the hot pack was again used. The patient continued in coma for about thirty-six hours, but there was great diminution in the general edema, and it was evident that she was improving under the treatment. After consciousness was restored the case progressed to a rapid recovery.

Medical Fortnightly, St. Louis

June 25

44 Squint: An Appeal to the Family Consultant. E. E. Clark, Danville.
45 History of Scientific Medicine, What it has Done and Does To-day for Medicine and Surgery. L. H. Warner, Brooklyn.

Bulletin of Medical and Chirurgical Faculty of Maryland, Baltimore

June

46 Addresses Delivered at Dedication of New Library Building of the Medical and Chirurgical Faculty of Maryland.

Chicago Medical Recorder

June

47 Brain Surgery. C. Wagner, Chicago.
48 *[illegible] natic" Hernia. W. H. Allport, Chicago.
49 [illegible] 'remature Detachment of the Normally [illegible] F. O. Bowe, Chicago.
50 The Enema—Its Place in the Treatment of Gastrointestinal Diseases. C. J. Drueck, Chicago.
51 Ocular and Cutaneous Tuberculin Diagnosis. M. Biesenthal, Chicago.
52 Eye and Ear Defects of Exceptional Children. T. Faith, Chicago.
53 The Graduate Nurse Versus the Patient of Moderate Income. F. Allport, Chicago.

48. **Traumatic Hernia.**—According to Allport, all examinations of cases of alleged traumatic hernia should be based on a consideration of: 1. Is there a protrusion which was reasonably certain to have been primary and local at the time of the accident? 2. Was there a trauma—in the sense of an unusual or unlawful use of force—inflicted on the person examined? It should be possible for an examining surgeon unerringly to classify the following forms of hernia: (1) The recent hernia accompanied by objective signs of trauma; (2) the recently injured, but ancient hernia; (3) the ancient uninjured hernia, masquerading as a recent result of trauma. It is always difficult, and often impossible, without operation, to differentiate between a small, quiet, old, thin-sacked hernia fraudulently presented, and a genuine recent hernia, which has thrust itself for the first time into a funicular process so large that it has admitted the bowel without objective evidence of trauma. Especially difficult is this when the patient is examined some time after the accident.

Allport directs special attention to the following points: 1. The value of a preliminary physical examination of all employés in mechanical occupations, with a carefully made and preserved record of the same. This examination has been too largely overlooked by employers. 2. When the etiologic diagnosis of hernia is at all in doubt, the surgeon should have the option of offering to the patient the benefit of a radical curative herniotomy.

American Journal of Urology, New York

June

54 Principles of the Modern Treatment of Gonorrhea. J. L. Boehm, St. Louis.
55 Hair-pin in the Bladder, with Removal by the Cystoscope. L. W. Bremerman, Chicago.
56 Epididymotomy in Gonorrheal Epididymitis. L. Gross, San Francisco.
57 How to Aborte Acute Gonorrhea. W. L. Champion, Atlanta, Ga.

Journal Indiana State Medical Association, Fort Wayne

June

58 *Surgery of the Thyroid, with Special Reference to the Psychic Factor in Graves' Disease. G. W. Crile, Cleveland.
59 Uses and Abuses of Gastrojejunostomy. J. R. Eastman, Indianapolis.
60 *What to Eat in Gastric Ulcer: A Milk-Free Diet. F. W. Foxworthy, Indianapolis.
61 Case of Gastric Ulcer with Perforation and Death. J. A. Work, Elkhart.
62 Sketches of Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
63 Gleanings from Obstetrics in General Practice. A. C. McDonald, Warsaw.
64 Value of Split Proteids in Infant Feeding. C. E. Hansel, South Bend.

58. **Surgery of the Thyroid.**—In Crile's series of 253 operations on the thyroid, 4 were performed for infections, all ending in abscess and requiring incision and drainage; two of the patients were in the course of typhoid and gave pure cultures of typhoid bacilli; one case followed an operation for extrauterine pregnancy; and one was a sequel of influenza. These were treated as abscesses elsewhere and all the patients recovered. There were 14 cases of malignant tumors, 9 carcinomata and 5 sarcomata. Of these, one patient with carcinoma and one with sarcoma passed the three-year period without recurrence; the remainder died of the disease. Among the operations for benign tumors, such as cysts and adenomata, and for plain goiters, results were as satisfactory as operations for benign pelvic tumors, interval appendicitis, and uncomplicated gall-bladder cases. There was but a single death in the entire series, and in the last 120 there was no fatality.

The special points of operative importance emphasized by Crile are: That the anesthetic should be given by a special anesthetizer; that the anesthetic should be preceded by a hypodermic of atropin to control the salivary and the buccal secretions; that in cases of compression of the trachea with obstructed respiration, morphin-cocain anesthesia is the safest; that the least scar and the best exposure are secured by the low collar incision; that the divided muscles should be sutured; that the gland should be handled as little as possible; that the dissection should be made in a clear field with perfect hemostasis; that the enucleation rather than excision should be made; that a strip of glandular tissue at the upper and lower pole and along the posterior border should be left, especially if a bilateral excision is made, ensuring the safety of the parathyroids; that the arteries should be secured early close to the gland itself so as not to cut off the blood supply of the parathyroids; that these arteries should be tied with linen or silk and not catgut, as the latter may slip; that the inferior laryngeal is best protected, not by exposing it, but by carrying the incision through tissues in which it does not lie; and that the best aid in the prevention of hemorrhage consists in placing the patient in the reverse Trendelenburg posture, thereby lowering the pressure in the veins. The wounds are always drained for from 48 to 72 hours.

Goiter has a rather definite geographic distribution. For the United States, it is most prevalent in the Great Lakes basin and the Columbia River Valley. For all practical purposes, goiters may be divided into three great classes, the first comprising benign tumors, hypertrophies and degenerations; the second Graves' disease—a true hyperplasia; and, third, neoplasms. Colloid goiters and benign tumors in experienced hands have about the same mortality following excision as that of interval appendicostomy. Operation is indicated for cosmetic reasons, for the relief of pressure symptoms, and when beginning malignancy is suspected. From 6 to 10 per cent. of all goiters that come to operation are malignant. Graves' disease should be recognized early and medical treatment faithfully tried. If, after careful treatment, the relapses grow more severe, excision of the gland should be done. If good judgment is used in selecting the stage for operation, the mortality should be but slight, probably 2 or 3 per cent., and a clinical course may then be completed under the care of a physician.

60. **Milk-Free Diet in Gastric Ulcer.**—After the usual methods employed in the treatment of gastric ulcer had failed, Foxworthy gave a milk-free diet in a case of two years' standing and with entire success. The white of one egg was beaten up in a glass of cold water and sipped slowly; this feeding was given every three hours, and each day the dose was increased by one egg, so that at the end of two weeks the patient was getting the whites of twenty eggs each day—that is, the whites of four eggs to a glass of water every three hours. The pain gradually disappeared, she was able to lie on her right side, which was not possible before, no vomiting occurred, and marked mental improvement was noticed. The only medical treatment used was lavage with one pint of warm water, in which ½ ounce of sodium bicarbonate had been dissolved. One-half of this amount was allowed to remain in the stomach. Before each feeding of albumin water, she was given one-half teaspoonful dry on the tongue, of the following mixture:

R	gm. or c.c.	
Magnesiæ ustæ		
Sodii carbonatis		
Potassii carbonatis, āā	5	or gr. lxxv
Sacchari lactis	25	ʒvj

On the fourteenth day, a meat juice preparation was added to the diet—and then gradually meat, eggs, vegetables and bread. On the forty-second day the patient was well nourished, enjoyed her food and had no pain for several weeks; no eructations of gas, the test meal showed normal acidity, and there was no tenderness over the abdomen, lavage made three hours after a meal found the stomach absolutely empty, and no symptoms of ulcer could be found.

Montreal Medical Journal

June

65 Life. J. G. Adami, Montreal.
66 Use of Radium in Paris. G. E. Armstrong, Montreal.
67 The Essential Character of Hysteria. T. A. Williams, Washington, D. C.
68 *Canadian Leprosy. C. M. Kelly, Montreal.
69 Value of the Roentgen-Ray in the Diagnosis of Renal and Ureteral Calculus. F. M. Auld, Montreal.
70 Medicine in Canada. M. Charlton.

68. **History of Leprosy in Canada.**—Kelly found that although the early history of leprosy in Canada is somewhat vague, it is established that the first cases appeared in 1816 among the Acadian people of Tracadie, N. B. The two first cases were Acadian girls born of Acadian parents fifty years after immigration from France had ceased, so it is rather doubtful if the bacilli were imported from that source. The late superintendent of the Lazaretto at Tracadie, Dr. Smith, held to the opinion that the disease came not from Normandy but from Norway, not from colonists, but from sailors shipwrecked on the shore of Bay Chaleur. Two sailors spent the entire winter with the family in which the first cases of leprosy appeared in the following summer. The disease was in existence for upwards of thirty years before identified as such. A hospital was founded and four years thereafter it was burned by the lepers themselves, and the people treated the discovery of the disease in their midst with the utmost indifference. The present building equipped after the manner of a modern hospital, was erected in 1896 by the federal government which assumes control over leprosy in Canada. There are now eighteen known cases of leprosy in Canada. Of these thirteen are probably traceable to the original infection, the remaining five being foreigners. Of these five, two, mother and son, were discovered in Nova Scotia, having come from the West Indies; Manitoba furnishes two, Icelanders by birth, and the fifth is a Doukhobor boy from the Northwest. In the treatment, prevention takes first place. Of therapeutic agents, Chaulmoogra oil is used internally and checks the acute symptoms; externally it is employed as a dressing and promotes the healing of leprous ulcers.

Journal of Medical Research, Boston

June

71 *Studies on Meningitis. W. J. Elser, and F. M. Huntoon, New York.

71. **Meningitis.**—The studies recorded at length in this article were carried out under the commission for the investigation of cerebrospinal meningitis appointed by the Board of Health of New York City in 1905. In view of the controversy then existing in regard to the characters of the meningococcus, it was deemed advisable to study a comparatively large number of strains. The results of this study indicate that while the meningococcus can not always be recognized positively on ordinary morphologic and cultural ground, yet its identification for practical purposes is quite easy; furthermore, that the cultural characters of different meningococcus strains are remarkably uniform; and for all that, the meningococcus may be differentiated from other Gram negative cocci by means of fermentation tests. Careful special investigation led the authors to conclude that the meningococcus is always Gram-negative, results to the contrary always, in all probability, being due to the admixture of different Gram-positive cocci. The highly variable agglutinability of different-strains of meningococcus even by the same immune serum deprives agglutination of much diagnostic value. Nearly half of the meningococcus strains studied were found to be relatively inagglutinable. At the same time, the agglutinogenic power of the meningococcus also varies; in some cases immune serums were obtained that agglutinated homologous strains in dilution of 1 to 25,000. Agglutination tests revealed that there exists a group relationship between the meningococcus and the gonococcus. Serum from cases of epidemic meningitis may contain specific agglutinins in testing for which it is necessary to carry out control tests with normal serum. Unfortunately, the agglutinin is the only antibody for meningococcus that the authors studied.

In 210 cases of meningitis a bacteriologic examination of the spinal fluid during life established a positive diagnosis in 194 instances (92.4 per cent.). Gram-negative cocci not identical with meningococci were encountered, but rarely in the spinal fluid, and for practical purposes the detection in smears from this fluid of a Gram-negative coccus with the morphology and staining properties of the meningococcus is sufficient to establish a diagnosis, if the examination is made shortly after the fluid has been withdrawn, and if the cells present in the fluid indicate the existence of an acute meningitis. The diagnosis is further strengthened if the coccus is intracellular. In the case of Gram-negative cocci from the nasopharynx and other parts not connected with the central nervous system, all the different tests are necessary in order to reach a reliable conclusion.

As regards the mode of dissemination and origin of epidemic meningitis, Elser and Huntoon conclude that the meningococcus is transmitted directly from individual to individual. Authentic instances of so-called indirect transmission are not recorded and would not be in harmony with the great sensitiveness of the meningococcus to drying. Meningococcus carriers play the most important part in the spread of this disease, and in an epidemic their number exceeds the number of those actually sick with the disease. The occurrence of adult carriers and the fact that most individuals are naturally immune to meningococcus infection explains many of the peculiarities of the epidemics. Meningococci gain entrance by way of the respiratory passages, as indicated by their early appearance there. While the path followed by the meningococcus to the brain is not definitely traced, the evidence at hand appears to favor a hematogenous route, the localization taking place in the leptomeninx on account of a special affinity of the meningococcus for that structure. It appears that only one other bacterium may cause epidemics of cerebrospinal meningitis, viz., the encapsulated streptococcus of Bonome, which by many is regarded as a Streptococcus mucosus. The pneumococcus, on the other hand, does not cause true epidemics of meningitis.

Texas State Journal of Medicine, Fort Worth

June

72 The Doctor's Duty as a Public Educator. H. W. Cummings, Hearne, Tex.

Wisconsin Medical Journal, Milwaukee

June

73 *Open-Air Treatment of Pneumonia. A. J. Patek, Milwaukee.
74 Gonorrheal Endocarditis. H. Hanson, Milwaukee.
75 Indications for Extirpation of the Lachrymal Sac. S. E. Wright, Marinette.
76 Present Status of Medical Expert Testimony on Insanity. N. Smilie, Philadelphia.
77 Ophthalmia Neonatorum. S. R. Boyce, Madison.

73. Abstracted in The Journal, Aug. 22, 1908, p. 793.

University of Pennsylvania Medical Bulletin, Philadelphia

June

78 Relation of the Thyroid and Adrenals to Pancreatic Gylcosuria. C. H. Stone, Philadelphia.
79 *Experimental Production of Acute Toxic Ulcer of Stomach. M. E. Rehfuss, Philadelphia.
80 Transplantation of the Ureters into the Gastrointestinal Tract. C. R. Steinke, Philadelphia.
81 *Etiology of Papilledema (Choked Disc).* C. Coover, Philadelphia.
82 *Effect of Atoxyl on the Eye. B. W. Key, Philadelphia.
83 Moot Points in Diagnosis and Treatment of Ectopic Gestation. E. S. Sledge, Philadelphia.
84 The Parathyroid Glands. J. L. Herman and W. B. Harvey, Philadelphia.
85 Maternal Milk as an Immunizing Agent to the Nursling. L. T. de M. Sajous, Philadelphia.
86 Occurrence of Acetonuria Following Anesthesia. R. N. Hamblen, Philadelphia.
87 Removal of Gallstones Coincident to Other Abdominal and Pelvic Operations. A. F. Jackson, Philadelphia.

79. **Experimental Production of Gastric Ulcer of Stomach.**—Rehfuss found that marked intoxication is the most important factor in the production of ulcer, and is the guide for the dose of poison, no matter what poison is used, which shall be given with sufficient frequency to insure a result. The dose must also vary with the weight of the animal. Observing such conditions, he was able to produce ulcer in 35 out of 41 animals injected with venom alone, or in a little over 85 per cent. of the cases. This ulcer seemed independent of agony, but usually was worse in direct proportion to the degree of intoxication manifested by the animal. The same underlying cause existed in all these cases, inasmuch as the ulceration and hemorrhage differed only quantitatively. The only factor which seemed essential was the condition of "marked intoxication." Rehfuss, therefore, tried various substances, poisonous in nature, injecting with sufficient frequency to secure such an effect for several hours always with the same result.

For the purpose of determining whether digestion or hemorrhage is the primary factor, he introduced 14 c.c. of a 4 per cent. solution of sodium bicarbonate into the stomach tube. Later, to bar out the effect of the passage of this fluid into the duodenum, two injections of 10 c.c. each were given, one hour apart. He found that alkali inhibits and in the great majority of cases actually prevents the formation of ulcer. Thus, in thirty animals so injected, only six gave ulcer—about 20 per cent.—and in four cases these ulcers were single. In the controls, 20 animals placed under similar conditions, over 80 per cent. developed ulcer, and in the majority of these the ulcers were multiple; a 2 per cent. sodium bicarbonate solution was not so efficacious, and failed to exhibit the same control over the lesions, although it seemed to inhibit their formation. These experiments make it highly probable that digestion is the primary step in the formation of these ulcers. As to the cause of primary digestion, his experiments do not permit him to make any definite statement. He is inclined to believe that the process is due to malnutrition of certain areas of the gastric mucosa, and that this malnutrition is brought about by the slowing of the circulation. The fact that animals which are in a state of collapse are especially liable to ulcer also would favor this interpretation. In other instances, injurious substances may pass directly from the capillaries into the surrounding mucosa, lead to interference with the vital processes of these cells, and thus lower their resistance to peptic digestion.

82. **Effect of Atoxyl in the Eye.**—Key concludes that atoxyl no doubt is of distinct therapeutic value, but that it has a treacherous toxic action in the organism. The most interesting and prominent effect of its toxic action is manifested by the production of amblyopia, the result of optic nerve atrophy, with primary involvement of the retina, though in certain cases central lesions, shown experimentally and apparent clinically, are very suggestive.

Atlanta Journal-Record of Medicine

June

88 Mouth and Tongue Disease. M. B. Hutchins, Atlanta.
89 Vaccines in Diagnosis and Treatment of Tuberculosis. E. C. Thrash, Atlanta.
90 Address of Welcome to the Medical Association of Georgia. T. E. Ryals, Macon.
91 Treatment of Typhoid. J. B. Baird, Atlanta.
92 Tuberculosis. J. E. Summerfield, Atlanta.
93 Celiac Parotitis. H. J. Williams, Macon, Ga.
94 Squint and the Importance of Its Early Correction. H. M. Lokey, Atlanta.

Journal of Cutaneous Diseases, New York

June

95 Case of Systemic Actinomycosis. H. R. Varney, Detroit.
96 Multiple Dactylitis, Syphilitica (Phalangitis Heredo-Sphyllitica, Hochsinger) in an Infant. H. G. Klotz, New York.
97 Pemphigus—Death in Collapse. H. G. Klotz, New York.
98 *Fulguration—The Local Application of a Current of High-Frequency by Means of a Pointed Metallic Electrode—Its Use in Dermatology.* G. M. MacKee, New York.

Annals of Surgery, Philadelphia

June

99 *Surgical Treatment of Locomotor Ataxia. Le G. N. Denslow, New York.
100 Traumatic Asphyxia. D. L. Despard, Philadelphia.
101 Stasis Cyanosis Following an Epileptic Seizure, Simulating Traumatic Asphyxia. E. G. Alexander, Philadelphia.
102 *Ligation of the External Carotids. A. L. Fisk, New York.
103 Cystitis and Ulceration of Bladder in Women. J. B. Shober, Philadelphia.
104 *Tuberculosis of the Bladder. G. MacGowan, Los Angeles, Cal.
105 *Surgical Treatment of Tuberculosis of the Epididymis and Testicle. C. G. Cumston, Boston.
106 Removal of Gauze Sponge from the Scrotum, Two and One-half Years After Operation for Double Inguinal Hernia. H. L. Kretschmer, Chicago.
107 Bone Transference. E. A. Codman, Boston.
108 Report of Saturday Surgical Clinics for Students. J. B. Deaver, Philadelphia.
109 The Volunteer Military Surgeon. W. G. LeBoutillier, New York.

99. **Locomotor Ataxia.**—Denslow insists that there has been much misconception as to the claims made by him regarding his treatment for tabes. He says any permanent pathologic changes that may have taken place in the spinal column or other portions of the nervous system are, of course, irreparable, and in that sense a cure is out of the question; but where a train of symptoms is undoubtedly due to a continued irritation of these lesions, and this irritation is stopped by removal of the causal *peripheral irritation to the extent of relieving the* patient permanently of the train of symptoms, such as pain, incontinence of urine and feces, balance, gait and sensations restored, it would seem as if, so far as the patient is concerned, he has obtained what he sought—relief from his troubles. Practically, he is cured; pathologically, he is not. He reports a further series of cases, 17 in number, which came to him during October, November, and December, 1908. Of the eight cases sent to him by Dr. Starr, the good results of seven of which were verified by Drs. Starr and Cunningham, six are doing well, all being able to work and attend to their usual vocations; one has never reported, and one has been lost sight of. He is more firmly convinced than ever that his conclusions previously stated are correct.

102. **Ligation of External Carotids.**—Fisk reports four cases of ligation of the external carotids for cancerous disease of the neck and face, and concludes from his experience and a review of the literature that ligation of the external carotid more thoroughly controls the hemorrhage than does ligation of the common carotid; that there is less probability of secondary hemorrhage, and that there is no fear of brain complications. He considers such ligation a safe and wise procedure in operations on the neck and face.

104. **Tuberculosis of the Bladder.**—MacGowan reports three cases of mushroom-like growths obstructing the outlet of the bladder, and springing up on a tuberculous focus. He discusses, in general, the treatment of tuberculosis of the urinary

tract. The cardinal indications are: (1) Estimation of damage already done; (2) relief of pain and hemorrhage; (3) lessening of urinary frequency; (4) prevention of progress. In no case should dependence be placed on local treatment alone, but use must be made of constitutional remedies, urinary antiseptics and analgetics. The happy effects of iodin are often as noticeable in securing the cure of localized tuberculous lesions as they are in syphilis. The cautious use of mercury by the mouth, by inunction of colloidal mercurial ointment, or by intramuscular injections of the salicylate is of assistance. Urinary antiseptics are valuable in combating bacteriuria, but their dose must be regulated to avoid irritation. Of analgetics, morphin should be avoided as long as possible; codein, in full doses, coal-tar preparations and crystallized hyoscyamin are of value. Methylene blue certainly has a calmative influence on the cystospasm. Suppositories are useful. Instillation of small quantities of corrosive sublimate in the bladder (Guyon's method) have given MacGowan excellent results, the first two weeks demonstrating if they will be of any use. MacGowan has seen many striking illustrations of the harmfulness of tuberculin in too great and too frequent injections, but he can not praise too highly its value when used intelligently as an aid in effecting a cure. He differs with many who deprecate surgical interference in vesical tuberculosis.

105. Published in the *Clinical Journal*, London, Feb. 17, 1909.

Journal Missouri State Medical Association, St. Louis

June

110 The State's Duty in the Conservation of Public Health. G. McConnell, St. Louis.
111 The Ocular Reaction to Tuberculin. A. W. McAlester, Jr., Kansas City.
112 Suggestive Form of Government Control of the Public Health. J. H. Morroway, Ridgeway, Mo.
113 Care of the Breasts and Nipples During Pregnancy and the Puerperium. P. H. Swahlen, St. Louis.
114 Tinea Sycosis. T. [illegible]
115 Acute Inflammation [illegible] anes of the Upper Air Passages. W. [illegible]
116 Importance of Early [illegible] of Rectal Disease. J. C. Minor, Chillicothe.
117 Our County Medical Society. J. W. Clark. Joplin.

American Journal of Surgery, Philadelphia

June

118 Acute Pancreatitis: Symptoms and Treatment. J. F. Erdmann, New York.
119 [illegible] Diseases of the Genitourinary Tract. [illegible] Brooklyn, N. Y.
*120 [illegible] of Tuberculosis Joints. H. A. Pingree, Portland, Me.
121 Operative Treatment of Saphenous Insufficiency. J. S. Lewis, New York.
122 Treatment of Talipes Equinus Varus by Plaster-of-Paris. E. L. Barnett, New York.
123 Practical Deductions Regarding Weak Foot. C. R. Keppler, New York.
124 *The Versatile Omentum. F. A. Dunsmoor, Minneapolis.
125 Case of Congenital Sacral Tumor. W. F. Campbell, New York.
126 Surgical Treatment of Epilepsy. G. F. Shiels, New York.

124. Abstracted in The Journal, Jan. 30, 1909, p. 415.

Journal of the Michigan State Medical Society, Detroit

June

127 Burns of the Eye and its Appendages. V. A. Chapman, Muskegon.
128 Recurrent Vomiting of Children. H. M. Rich, Detroit.
129 *Etiology and Pathology of the Toxemias of Pregnancy. W. H. Morley, Detroit.
130 *Toxemias of Pregnancy—Diagnosis and Treatment. H. E. Randall, Lapeer, Mich.
131 Toxemias of Pregnancy—Eclampsia. E. Elliott, Chesaning.
132 Comforts and Minor Necessities in Management of Obstetric Cases. C. H. Judd, Detroit.
133 An Interesting Brain Injury. H. B. Garner, Traverse City.

129 and 130. Abstracted in The Journal, Aug. 29, 1908, p. 787.

Long Island Medical Journal, Brooklyn

June

134 Organized Campaign against Tuberculosis. L. Farrand, New York.
135 What the City is Doing and Proposes to do with the Tuberculosis Problem. R. W. Hebberd, New York.
136 Tuberculosis Work in the Borough of Brooklyn. J. Jenkins, Brooklyn.
137 Treatment of Ectopic Gestation in its Early Stages. H. C. Keenan, Brooklyn.
138 *When shall Gastric Ulcer be Treated Surgically? R. W. Westbrook, Brooklyn.

138. When Shall Gastric Ulcer be Treated Surgically?—Westbrook answers this query as follows: In cases in which the symptoms and physical signs point to retention of food contents due to pyloric obstruction, dilatation of the stomach, hour-glass contraction, adhesions, etc.; in cases of perforation; in cases of severe hemorrhage; in cases of recurring hemorrhages, which produce secondary anemia; in cases which culminate in hemorrhage after dyspeptic symptoms over a long period; in chronic ulcer which resists medical cure for a period of two to four months. All the early uncomplicated cases of ulcer may be considered to be amenable to medical treatment.

The Journal of the Kansas Medical Society, Kansas City

June

139 Post-Diphtheritic Complications and Their Prophylactic Treatment. L. W. Shannon, Hiawatha, Kan.
140 Puerperal Eclampsia. J. H. Langworthy, Leavenworth, Kan.
141 Uterine Hemorrhage with Reference to the Menopause and Uterine Cancer. J. C. Shaw, Holton, Kan.
142 Case of Gastric Ulcer; Gastrojejunostomy. R. B. Gibb, Pittsburg, Kan.

Journal Medical Society of New Jersey, Orange

June

143 The Pancreas as a Possible Field for Surgery. E. M. Foote, New York.
144 The Cancer Problem in New Jersey. J. A. McGlinn, Philadelphia.
145 Needs of the Medical Profession in Essex County. W. P. Eagleton, Newark.
146 The Physician in Politics. W. E. Ramsay, Perth Amboy.
147 The Meddlesome Doctor. J. W. Bradshaw, Orange.

Therapeutic Gazette, Detroit

June

148 *Prevention of Tropical Abscess of the Liver by Treatment of the Presuppurative Stage with Ipecacuanha. L. Rogers, Calcutta, India.
149 *Use of the Oil of Cloves (Oleum Caryophylli) in Pulmonary Tuberculosis. H. R. M. Landis and H. J. Hartz, Philadelphia.
150 *Apomorphin as a Hypnotic. C. J. Douglas, Dorchester, Mass.
151 Facts as to Chloroform and Delayed Chloroform Poisoning. T. S. Githens, Philadelphia.
152 Cuguillere's Serum in Bone Tuberculosis. C. H. Muschlitz, Philadelphia.

148. Prevention of Tropical Abscess of Liver.—Rogers has found ipecac of great value in the treatment of the hepatic complications of amebic dysentery—preventing suppuration if given in the presuppurative stage and preventing recurrences if given after surgical treatment. For the last three years it has been usual to continue full doses of 20 to 30 grains once a day for one or two weeks after the temperature fell to normal, and in smaller doses for some time longer in the more acute cases. Full doses are required, and as much as 60 grains at a time have been administered. However, full effects can be obtained with half that amount, while in feeble patients or women 20 grains will usually suffice. In one case only 5 grain doses were given by mistake, and a very acute hepatitis subsided completely, although much more slowly than is usual under fuller doses in other cases. The usual method is to give it as a powder twenty minutes after a dose of tincture of opium, or better, 20 grains of chloral hydrate, no food or drink being given for several hours before and after, the patient being kept as quiet as possible and instructed to try not to vomit. A method used with success in the Philippine Islands, and also recently in Calcutta, is to make fresh 5-grain pills of ipecacuanha, and brush them over with a thick coating of melted salol, which does not readily dissolve in the stomach. Rogers' plan is to put up the powdered drug in 5-grain doses in keratinized capsules, which do not dissolve in the stomach, but carry the drug into the bowel, where its action is required. This method has done much to get over the objections to the treatment.

149. Oil of Cloves in Pulmonary Tuberculosis.—Of the fifty cases in which Landis and Hartz employed oil of cloves, thirty had a severe cough and expectorated large quantities of sputum, while in the remaining twenty the amount of sputum was slight and the cough for the most part was unproductive. Twenty-four of the thirty patients with large amounts of sputum were distinctly benefited. Those with an unproductive cough were not helped, and as a rule were made worse by the drug. Given internally, the oil of cloves may be administered in the dose of from 3 to 5 minims in half a glass of milk or in capsules. The following combination gave the best results:

℞	gm. or c.c.	
Olei caryophylli		
Syrupi senegæ, āā	8	fl.ʒij
Extracti glycyrrhizæ	45	fl.℥iss
Aquæ destillatæ, q. s. ad	90	fl.℥iij

M. Sig.: Teaspoonful three times daily after meals.

While the relief given to the cough might be attributed to the anesthetic action of the drug in the upper air passages, it is to be noted that the same effect is produced when the drug is given hypodermically. Furthermore, an irritating cough unattended with much sputum, instead of being improved, seems to be made worse. The abatement of the cough is probably simply secondary to the diminution in the quantity of sputum, which requires less effort for its removal. Inasmuch as no ill effects follow the diminished secretion of oil of cloves probably has an inhibitory action on the secreting membrane of the cavities rather than causing a locking up of the material, as does opium.

150. **Apomorphin as a Hypnotic.**—Douglas again calls attention to the usefulness of apomorphin as a hypnotic when given hypodermically in 1/30 of a grain dose, although this is not a fixed amount. Individual susceptibility to the action of apomorphin varies somewhat. If it is desired to avoid nausea the dose must be as near to the emetic dose as possible without quite reaching it. If it is a little too small it produces no effect whatever, even if repeatedly administered every thirty minutes, as it has no cumulative action. On the other hand, if the dose is a little too large it produces emesis.

Buffalo Medical Journal

June

153 The Next Twenty-Five Years in Surgery. R. Park, Buffalo.
154 Radical Operation for Cure of Incipient Hip-Joint Disease. H. C. Rooth, Buffalo.
155 The International Congress of Surgeons, 1908. E. R. McGuire, Buffalo.
156 Effect of High-Frequency Currents on Blood Pressure, Demonstration of the D'Arsonval Cage. W. L. Conklin, Dansville, N. Y.
157 Blastomycosis in New York State. H. C. Baum, Syracuse, N. Y.

The Ohio State Medical Journal, Columbus

June 15

158 Colopexy and Other Surgical Procedures Indicated in Treatment of Constipation (Obstipation) Due to Intestinal Ptosis. S. G. Gant, New York City.
159 Isoagglutinins and Isohemolysins. W. M. Moss, Baltimore.
160 The Danger of Infection in Tuberculosis from Bovine Sources, with Special Reference to the Situation in Ohio. A. B. Smith, Wilmington.
161 Ectopic Gestation. F. T. Marr, Chillicothe.
162 Serous or Posterior Basic Meningitis; Its Early Recognition and Treatment. J. P. West, Bellaire.
163 Extirpation of Lachrymal Sac—Indications for and Technic of Operation. C. S. Means, Columbus.
164 Bacteriology of the Conjunctiva. E. M. Weaver, Akron.

Northwest Medicine, Seattle

June

165 Treatment of Acute and Chronic Inflammation with Hyperemia. E. O. Jones, Seattle, Wash.
166 Diagnosis of Incipient Pulmonary Tuberculosis. H. M. Page, Freewater, Ore.
167 Accidental Hemorrhage. R. J. O'Shea, Seattle, Wash.
168 Present Status of the *Spirochæta Pallida*. A. M. MacWhinnie, Seattle, Wash.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

June 19

1 Prominent Motive in Murder. T. C. Shaw.
2 *Theories as to Mode of Production of Grocco's Paravertebral Triangle of Dulness. W. Ewart.
3 Pancreatic Glycosuria Ten Years After Typhoid. P. J. Cammidge.
4 Relation of Acidosis to the Carbon Dioxid of the Blood in Diabetic Coma. A. P. Beddard, M. S. Pembrey and E. I. Spriggs.
5 The Operation of Cardiolysis. F. J. Poynton and W. Trotter.
6 Proposed International Standard for the Physiologic Assay of the Heart Tonics of the Digitalis Series. E. M. Houghton.
7 Rupture of the Spleen; Removal; Recovery. T. S. Lukis.
8 *Treatment of Chronic Suppuration of the Maxillary Antrum: An Operation and New Instruments. J. Donelan.
9 Aphasia Succeeded by Jacksonian Epilepsy; Operation; Recovery. W. Alexander.
10 *Catalepsy Occurring in a Boy Aged 15. D. E. Core.
11 *Removal of Superfluous Hairs by Improved Methods. A. H. Pirie.
12 *Simple Method of Diagnosis in Paralysis of the Extrinsic Muscle of the Eye. A. MacNab.

2. **Grocco's Paravertebral Triangle of Dulness.**—A principle of fundamental importance to clinicians in their study of intrapleural events is the fact that a lung laterally compressed by fluid retreats into the spinal groove by virtue of the posterior position of the pulmonary root above, and of the attachment below of the posterior edge of the lung by means of the ligamentum latum pulmonis. Ewart believes that this recession and this attachment govern in effusion the persistence of the spinal and vertebral resonance for some distance below the upper level of the fluid, and the production of the S-shaped outline of dulness of Damoiseau. He concludes, therefore, that Grocco's paravertebral thoracic triangle of dulness, due to fluid free in the pleura, is rectilinear, not curved; and in other respects also it agrees with the description of it given by Grocco. It is also produced by fluid collections in the abdomen; its base is then broader than in pleural cases. In the latter, neither its width nor its shape vary appreciably, but only its height; this rises exactly to the level reached by the effusion itself. In bilateral cases of pleural effusion a Grocco's triangle can be made out on both sides, in spite of the dulnesses due to the two effusions. As the effusions are seldom quite equal, two unequal Grocco's triangles are the rule. In ascites and analogous abdominal cases the rule is for the two triangles to be equal; they therefore make up together a low but wide equilateral triangle bisected by the spine. The simultaneous occurrence of a right and of a left Grocco's triangle is incompatible with the alleged causation by pleural bulging across the vertebral column. The same reasoning applies to the theory that a pendulum displacement of the intrathoracic viscera across the middle line might explain the dulness. Anatomic probabilities are against any possible shifting of a collapsed pulmonary base away from its own vertebral growth. The assumption that a Grocco's triangle is produced directly by any fluid or other non-resonant substance immediately underlying it is negatived by the circumstance that the general outline of the triangle is always geometrically the same and is not contingent on the innumerable variations in size and shape which belong to fluid collections or to solidifications. This is an argument in favor of the causation suggested under the name of the pleximetric spine theory. The same view is supported by the results of the crucial test and counter test, which also afford proof of the genuineness of this clinical sign, and of its helpfulness in the diagnosis of pleural and abdominal conditions.

8. **Chronic Suppuration of Maxillary Antrum.**—Donelan says that the important thing in chronic antral suppuration is to operate as early as possible by a sufficient removal of the middle or posterior part of the external nasal wall, and not to allow such cases to drift on to formation of nasal polypi and polypoid degeneration of the antral mucous membrane which may demand the much more severe and sometimes disfiguring radical operation.

10. **Catalepsy.**—A boy with previous history negative, had three fits in six weeks. The boy would first become very stiff for a short time and then jerk himself about, but he had never fallen, as there had always been time to recognize what was about to happen and to get the boy into a chair. There had not been any passing of urine in these attacks, neither had he ever bitten his tongue. There was no history of fits of any kind in any other member of the family. The last attack occurred about two weeks before the patient was first seen, and was apparently followed by a state of stupor, in which the boy would not feed himself, and had to be made to pass his urine. Otherwise he had been in a condition of blankness. When first seen by Core, the boy was in an absolutely passive condition. He allowed his limbs to be put into any position and made no attempt either to resist or to alter their attitude. He was, however, alive to painful stimuli, and resented pin-pricks by frowning and finally by turning his body away from the stimulus. The only muscles which were active were those of the eyes; these were moved voluntarily, and the patient watched proceedings with interest. The general condition was very good, the boy being well grown, and with remarkably well-developed muscles.

Shortly after his admission he would not swallow what was put into his mouth and nasal feeding had to be instituted. After the first meal given in this way, he took his food perfectly well if it was placed in his mouth. On the eighth day he developed a very slight but definite squint, the left internal rectus apparently being at fault. This, after varying from day to day, disappeared within a week of its appearance. The boy was treated with galvanism and massage, and although at the time of application he seemed to improve, he remained in the state described for over sixteen weeks. During this time he never, apart from electric stimulation, made a single voluntary movement. He lay on his back staring at the ceiling and generally soaked in urine. While being galvanized he turned himself about in order to evade the battery, and on several occasions shouted out, but as soon as the current was taken off he relapsed into his former state. Some ten weeks after his admission contractures of the fingers made their appearance, and any effort to extend them met with the most violent resistance. This was followed by flexion of the legs on the thighs, and of the thighs on the trunk, but the mental condition remained just as it was, and the limbs when straightened could be molded in the same way as when he was first seen. Sixteen weeks after his admission the boy was suddenly heard singing in the night, and shortly after he spoke a few words apart from electric stimulation. From this time he recovered rapidly, but for some time he was unable to feed himself and to speak; his muscles were in their original state of waxy flexibility. Thus after having been given a plate of rice and a spoon he would sit and stare at the food without making the least attempt to eat it. Then when some was lifted into his mouth he would start feeding himself and would continue to raise the spoon to his mouth long after the plate was empty. When told to stop he would obey slowly. If he was questioned, he would at first make no effort to answer, neither would he look at the questioner, but after a long pause he would reply in a peculiar monotonous tone. This transition state passed off rapidly, and the boy assumed what was probably his normal condition. This was one of irritating stupidity, mingled with a low degree of cunning. The temperature through the whole period of his stay in the hospital was normal. There was never any albuminuria. There were no signs of any cerebral trouble, and a diagnosis of hysteria was made. This was confirmed by the appearances of the contractures. A diagnosis discussed was one of postepileptic stupor, but the length of time which had elapsed between the last fit and his admission, fourteen days, put this out of the question. Then, again, the fits were not perfectly typical of epilepsy. Of the many hysterical manifestations the case conformed most closely to that known as catalepsy.

11. **Removal of Superfluous Hairs.**—The essentials for obtaining good results in Pirie's operation are: (1) Connect the needle to the negative pole; (2) use a fine stiff wire as a needle (the wire supplied with the finest hypodermic needle is a suitable one); and (3) insulate the wire so that only the last one-sixteenth of an inch supplies the current. The advantages of this method are two—(1) no scarring after the operation; and (2) a lower percentage of re-growth of hairs.

12. **Paralysis of the Extrinsic Muscles of the Eye.**—MacNab's method, briefly stated, is as follows:

1. A muscle is paralyzed when a diplopia occurs in one part of the field of vision or when there is diplopia over the whole field and the separation of the images increases in one direction.
2. The direction in which the diplopia is greatest indicates the direction of action of the affected muscle.
3. The image projected further in the direction of greatest diplopia is formed by the affected eye. When the candle is moved in the direction in which the diplopia increases, the image which moves most rapidly in that direction is the one formed by the affected eye.
4. The separation of images is greatest when the eye is looking along the line of the tendon of the affected muscle or when this object is opposite the end of the affected tendon.

British Medical Journal, London

June 19

13 *Radioactivity and Carcinoma. W. S. Lazarus-Barlow.
14 Red Degeneration of Uterine Fibroids Complicating Pregnancy. J. Bland-Sutton.
15 *Spontaneous Rupture of Cyst-Adenomatous Ovarian Tumors. H. Briggs.
16 Incidence of Gonorrhea in Gynecologic Hospital Practice. F. Ivens.
17 Cesarean Hysterectomy in Pregnancy Complicated by Myoma Uteri. J. B. Hellier.
18 *Hysterectomy for Puerperal Infection. A. K. Gordon.
19 Clean Midwifery in General Practice. A. H. Gregson.
20 Primary Epididymitis in Mumps. J. J. Waddelow.
21 Treatment of Boils and Carbuncles. A. O. Ward.
22 Tetanus Following Surgical Operations. J. I. Jaffé.
23 Poisoning by Bismuth Subnitrate Injected into a Knee-joint. A. Don.

13. **Radioactivity and Carcinoma.**—Lazarus-Barlow has found that certain tissues of the human body show skotographic action (liver, kidney), while others do not (spleen, lung); that a larger amount of this property resides in female tissues that possess it than in male of the same kind; that the amount present in the liver increases from infancy to the age of 55 years, with an unexplained drop in both sexes during the age period 35 to 45, and that after 55, while it increases still further in the case of males, in females it undergoes a sharp diminution. He has shown that carcinomatous material possesses skotographic power, whether it be primary or secondary, and that female carcinomatous tissue has a higher skotographic value than male, and that the existence of a mass of carcinoma in a tissue modifies its normal skotographic value. He has also found that certain substances commonly supposed to be casually related to carcinoma possess the skotographic power to a high degree (cholesterin gallstone), while others are devoid of it (pipe clay, paraffin). Lazarus-Barlow has endeavored to throw some light on the nature of the skotographic action manifested by animal tissues and certain other substances, comparing their behavior with that of woods in which the action has been regarded as dependent on the formation of hydrogen peroxid and with that of recognized radioactive substances. On this point he has adduced evidence showing that the animal tissues and other substances under examination can not, so far as their action on a photographic plate in the dark is concerned, be grouped conclusively with the recognized radioactive substances or segregated into a class such as that formed by the woods, and believed by Russell to affect a photographic plate in the dark by means of a purely chemical action. They occupy an intermediate position and have affinities with the woods on the one hand, and with the recognized radioactive substance on the other.

15. **Cystadenoma of Ovary.**—Briggs records four cases which show that in non-malignant cyst adenomata the clinical manifestations are those of: (a) Tumor degeneration: (1) Impairment of health disproportionate to the size of the tumor; (2) abdominal pain; (3) variable distention of the abdomen; (4) irritability of the bladder; (5) irregular menstruation subject to the usual modifications of pregnancy, lactation and the climacteric. (b) Rupture of the cyst, acute pain, recurrent pain, vomiting, the accumulation at a variable rate of free fluid in the abdomen. The diagnosis of cyst rupture by free intraperitoneal fluid can only be (1) positive, when the partially filled cyst can be felt or when the previously firm cyst has completely collapsed; (2) presumptive, when the clinical manifestations of degeneration and rupture have been obtained; and (3) occasionally and exceptionally, when the free fluid is small in quantity and the rupture minute, both may escape detection before and during the operation of ovariotomy.

18. **Hysterectomy for Puerperal Infection.**—In a series of 250 cases of the more severe type of puerperal fever, Gordon has only attempted the operation once with a good prospect of success in the following case, though he has removed the uterus unsuccessfully in 5 other cases (twice by the vagina and three times abdominally) as a last resort and at the urgent solicitation of the relatives or of the medical attendant. As a rule, the patient is either in a condition of general septicemia with streptococci in the circulating blood when she arrives at the isolation hospital, or if the lesion is well localized, reacts to vigorous disinfection of the uterus. In the case reported the infection followed the removal of an adherent placenta by one who had no facilities for proper asepsis. Having determined by blood cultures that there was no general bacillary infection, and that it would probably not be possible adequately to disinfect the uterus by local palliative treatment, Gordon

amputated the uterus at the level of the internal os, leaving both ovaries and covering the stump with peritoneum in the usual manner. A rubber tube was placed in the remains of the cervix, and the peritoneal cavity closed without drainage. After the effects of the ether had passed off, the patient was propped up in the sitting position and three pints of saline solution given subcutaneously. The woman made a slow but complete recovery.

Medical Press and Circular, London

June 2

24 Clinical Forms [illegible] H. Huchard.
25 Essentials of [illegible] D. F. Harris.
26 Experiment to [illegible] of Colored Underclothing for Soldiers. J. M. Phalen and H. J. Nichols.
27 Suprapubic Prostatectomy. G. P. Newbolt.

June 9

28 Extraction and Cutting of the Roots of the Trigeminal Nerve as an Operation Substituting the Extirpation of the Gasserian Ganglion. J. Dollinger.
29 Essentials of Physiologic History. D. F. Harris.
30 Eye Strain (Asthenopia). G. A. Berry.
31 High-Frequency Cytolysis and Fulguration of Cancer. J. A. Riviere.
32 Recent Researches on the Function of the Non-Auditory Ear. R. H. Woods.

Clinical Journal, London

June 2

33 Cancer of the Gall Bladder and Bile Ducts. J. Bland-Sutton.
34 Syphilis. H. Cripps.
35 Demonstration of Cases of Nervous Disease by the Cinematograph. W. Harris.

June 9

36 Use of the Cystoscope. E. S. Bishop.
37 Results of Recent Research on Certain Diseases. F. M. Sandwith.
38 Diagnosis of Malignant Disease by Estimating the Antitryptic Power of Cancerous Serums. E. C. Hort.

Glasgow Medical Journal

May

39 Report of Case [illegible] f the Difficulties in the Diagnosis of [illegible] \. E. Maylard.
40 *"Puna" or "Sc [illegible]
41 Macrostoma, Associated with Cleft of Soft Palate. G. H. Edington.
42 Dermatitis Repens. J. W. Nicol.
43 *Treatment of Phthisis by Intravenous Injection of Iodoform. J. Bain.
44 Rheumatoid Arthritis. W. F. Somerville.

40. **Puna.**—Allan describes a disease not uncommon in the mountainous countries of South America, the effect of diminished atmospheric pressure on the human organism. It is called by the various names of puna, soroche, marco and veta. He gives an account of it received from a layman of advanced middle life who was attacked by it in the mountains of Bolivia. The symptoms were great depression and sickness, vomiting, gasping for breath, and later, bleeding, formation of mucus or phlegm in the throat, mixed with blood, the throat being dry and painful. It gets worse instead of better on going to bed. Many persons in Oruro, a mining town in the mountains of Bolivia, have died from it. It frequently attacks individuals suddenly. The narrator improved sensibly while coming down on the railway from Oruro. The author's other informant had never had the disease, but had seen many cases, the course of which he describes much as the other man had done. He is of opinion that puna does not depend alone on the elevation, but that the cold wind has much to do with it. He is further of opinion that some persons bring the condition on themselves by nervous apprehension.

43. **Iodoform Injection in Phthisis.**—Bain points out that the sanatorium, as at present constituted, is for those who can afford to pay a minimum fee, and for the very indigent who come with cognizance of the inspector of poor. The great majority of the working classes, however, are excluded, and he records in more or less detail six cases from this class to show what can be done for working people, in their own homes and under very unpromising surroundings, by intravenous injections of iodoform. The solution used is that of Dewar, as follows: Liquid paraffin, 40 per cent., anesthetic ether to 2 ounces. In every 20 minims dissolve one grain of iodoform; thus 10 minims contain ½ gr. of the drug. The mode of administration was detailed in an abstract of Dewar's article (*British Medical Journal*, Jan. 14, 1905) in THE JOURNAL, Feb. 11, 1905. The amount of iodoform which Bain's patients all received was, on an average, ½ grain every second day, and, toward the end of treatment, every third day, except at the first injection, when it is advisable only to give ¼ grain, or 5 minims of the ethereal solution of the drug, to see how the patient is going to stand it. On the day following an injection of 15 minims, the patient sometimes complains of severe headache and aching all over the body, particularly in the lumbar region, which might lead one to suspect the onset of influenza, but these symptoms clear up in 24 hours. These cases are at present undergoing the test of time, and one can not yet say that the cure will be permanent. However, if one were to judge by the look of robust health on the faces of these patients, and their own statements that their health has never been better, one would be inclined to say that they will never again be troubled with pulmonary tuberculosis.

Annals of Tropical Medicine, London

May

45 Nomenclature of Mammalian Trypanosomes Observed in Northwestern Rhodesia. R. E. Montgomery and A. Kinghorn.
46 Experiments on Combined Atoxyl-Mercury Treatment in Monkeys Infected with [illegible] \. Breinl.
47 *Drugs from the Congo. [illegible]
48 Gregarine Parasitic in [illegible] *Sorraticeps.* E. H. Ross.
49 Action of Aryl-Stibinic Acids in Experimental Trypanosomiasis. A. Breinl and M. Nierenstein.
50 *Mechanism of Hemolysis in Piroplasmosis Canis. A. Breinl and H. E. Annett.
51 Gland Puncture in the Diagnosis of Animal Trypanosomiasis. [illegible] and A. Kinghorn.
52 [illegible] .ooklets of *Cysticercus Cellulosæ* in Man. [illegible]

47. **Drugs from the Congo.**—Marsden follows up a previous study of native African remedies with a macroscopic and microscopic description of mouindu. No mention is made of its clinical uses.

50. **Piroplasmosis Canis.**—Breinl and Annett describe researches on dogs which tend to prove that the hemolysis and the hemoglobinuria in infections with *Piroplasma canis* is due neither to an isolysin nor to an autolysin, but apparently only to a disintegration of red blood corpuscles after the escape of the parasites from them.

Dublin Journal of Medical Science

June

53 Physical Deterioration and a Remedy. J. B. Story.
54 The General Anesthetic Bill, 1908. T. P. C. Kirkpatrick.
55 *Grocco's Paravertebral Triangle of Dulness. T. G. Moorhead.

55. **Grocco's Paravertebral Triangle.**—According to Moorhead, this sign is found only in cases of pleural effusion, and is absent in pneumonia and pulmonary fibrosis. It is not present in all cases of pleural effusion. Moorhead found it in fourteen out of nineteen cases only. This is in agreement with the earlier observations of others, but most clinicians now maintain its invariable presence in effusion. He has not observed any difference varying with the side on which the effusion existed, though some maintain that the dulness is best marked when the effusion is on the right side. The sign, when present, is of great value; its absence is of less importance. If the sign has once been observed to be present its disappearance is of great value in distinguishing between thickened pleura and persistent effusion. Moorhead has never observed the dulness to extend above the fourth dorsal spine, even when the effusion filled the entire chest. He believes, moreover, that the reason for his finding is the fact that the easily movable mediastinal mesentery does not extend above the fourth dorsal spine. Above that level lies the superior mediastinum, in which the structures are less readily movable. This observation, therefore, is a further point in favor of the dulness being caused by mediastinal displacement.

Annales de Dermatologie et de Syphiligraphie, Paris

May, X, No. 5, pp. 289-351

56 Ringworm, and Connection between Ringworm and Trichophytons. (Sur les soi-disant godets produits par des trichophytons et de soi-disant trichophytons producteurs de godets.) R. Sabouraud.
57 Alterations of Tissues af [illegible] . (Altérations déterminées par [illegible] Pellier.
58 Case of Erythema Indura [illegible] rculin Reaction, Subsiding under [illegible] G. Thibierge and P. Gastinel.

Annales de l'Institut Pasteur, Paris

May, XXIII, No. 5, pp. 361-440

59 Action of Yoghurt Ferment on Sugars. (Action du ferment bulgare sur les principaux sucres.) G. Bertrand and F. Duchacek.
60 Whooping Cough Endotoxin. (Endotoxine coquelucheuse.) J. Bordet and O. Gengou.
61 Epizootic Lymphangitis in Horses. (Lymphangite épizootique des équidés au Sénégal.) A. Thiroux and L. Teppaz.
62 Treatment of Trypanosomiases in Horses with Orpiment. (Traitement de [illegible] les chevaux par l'orpiment seul [illegible] ld.
63 Transmission to [illegible] abies. (Etude de la transmission [illegible] antirabique.) P. Remlinger.

Archives Générales de Chirurgie, Paris

May, III, No. 5, pp. 441-550

64 *Ischemic Paralysis. (Paralysie ischémique de Volkmann.) R. Froelich. Commenced in No. 4.
65 Partial Nephrectomy in Treatment of Hydatid Cysts in the Kidney. V. Nicaise.
66 Tardy Deformity following Broken Leg. (Déformations tardives consécutives aux fractures du membre inférieur.) D. G. Zesas

64. **Ischemic Paralysis.**—Froelich reports eight cases, the trouble following compression from an apparatus applied for fracture of the bones of the arm or a tourniquet to arrest hemorrhage in the hand. His patients were between 3 and 11 years, and he does not know of any instance in which this form of paralysis occurred in adults. In treatment he applied an orthopedic appliance or made the tendons longer or the bones shorter. The latter operation is to be regarded as the preferable method for treatment in the majority of cases of ischemic paralysis. In one case of total suppurative myositis of the muscles of the forearm, he attempted to suture the extensor tendons to the triceps and the antagonist tendons to the biceps, but the tendons were found destroyed beyond relief. The details of the technic followed are described; the outcome was always satisfactory, but never absolutely perfect from the esthetic point of view.

Archives Générales de Médécine, Paris

May, CC, No. 5, pp.257-320

67 *Differential Diagnosis of Phlegmonous Angina and Diphtheria. H. Roger and J. Margarot.
68 Visual Disturbances and Lesions in the Fundus in General Paralysis. A. Rodiet and P. Pansier.

67. **Differentiation of Phlegmonous Angina and Diphtheria.**—Roger and Margarot have observed 2 cases of pseudophlegmonous angina of diphtheritic origin and have found 25 on record, with 5 fatalities. This form of diphtheritic sore throat is most common between the ages of 15 and 30; children seldom present it. In another case they encountered a phlegmonous angina which simulated true diphtheria, although of non-diphtheritic origin. In a certain number of cases in the literature the two affections were associated. Diphtheria antitoxin should be injected without waiting to ascertain whether the diphtheria bacilli are to be incriminated or not. In these cases, more than anywhere, the motto, "in case of doubt do nothing," must be systematically disregarded, and antitoxin used until the case clears up.

Grèce Médicale, Syra, Greece

May 15, XI, Nos. 9-10. Last indexed February 20, p. 668

69 *Malaria in Children. (Malaria infantile.) J. P. Cardamatis. Commenced in No. 3.

69. **Malaria in Children.**—Cardamatis reviews what has been reported on malaria in children, and adds his own experiences with 806 children under 5, 1,228 under 10 and 985 from 10 to 15 years old, out of a total of 8,600 malaria patients in his charge at Athens during the ten years ending 1904. Enlargement of the spleen was observed in from 2.87 to 50 per cent. of all the children. Infants less than a year old seem to display greater resistance to the disease, both against acquiring it and against its effects. Malarial cachexia occurred most frequently between the ages of 3 and 7; if children thus affected survive, they acquire durable immunity. The spleen is not always enlarged even in these severe cases, and the anemia is not always intense. Various types of the hematozoa were found combined in the blood in some cases. Gastrointestinal disturbances were the main complication of the malaria in the children, but the blood findings were negative in 92 cases of febrile diarrhea ascribed at first to a malarial origin. Malarial nephritis has scarcely ever been observed in a child, but epistaxis, purpura, vomiting of blood, cirrhosis, urticaria and ascites are frequent complications, as also convulsions and delirium. Bronchitis, pneumonia and other infections are not complications, but merely intercurrent diseases. Epidemics of malaria and whooping cough or measles sometimes coincided, but each disease ran its course independently of the other in the same child. Tuberculosis and typhoid fever were rarely observed in malarial children. In chronic malaria, quinin should be given for three months, even if the child has left the malarial region. The disinfection of the blood is the most important task in prophylaxis of malaria, as the children are responsible for the endemics in nearly every instance. Between the ages of 2 and 5 it is almost impossible to get them to take the quinin, although the new chocolate tablets have improved conditions in this respect. He advises a little quinin for the non-infected children as a prophylactic measure, about 0.2 gm. (3 grains) every day, for this age, in the endemic foci.

Lyon Chirurgical

May, I, No. 7, pp. 721-856

70 *The Parathyroids and Their Tumors. (Les glandules parathyroides et leurs tumeurs.) L. Bérard and H. Alamartine.
71 *Radical Operation for Femoral Hernia through Inguinal Region without Closure of Femoral Ring. (Cure radicale de la hernie crurale par la voie inguinale sans fermeture de l'anneau crural.) M. Vallas and E. Perrin.
72 *Lumbar Puncture in Injuries of the Head. (Traitement des accidents méningés lointains par évacuation de l'épanchement sanguin sousarachnoidien.) P. Savy.
73 Treatment of Ptosis by Transplantation of Tongue Flap from Tendon of Superior Rectus on the Tarsal Cartilage of the Paralyzed Lid. (Ptosis opéré par la méthode de Motais.) L. Dor.

70. **The Parathyroids and Their Tumors.**—Bérard and Alamartine have examined with the microscope the parathyroids in fifty adults from 19 to 75 years old, their report forming a good picture of what is known to date of the anatomy, physiology and pathology of the parathyroids. They found a single parathyroid in 1 case, two in 12, three in 11, and four in 6 cases, and report a case of tumor in one parathyroid. They summarize from the records 29 cases of parathyroid tumors. In 3 instances the growth was evidently malignant and metastasis proved fatal after removal of the primary tumor. In 24 cases the tumor was formed exclusively of parathyroid tissue, while in 5 there were islands of thyroid tissue. No clinical syndrome is yet known corresponding to overfunctioning of the parathyroids, but the rapid growth of a tumor in a parathyroid gland justifies the assumption of malignancy and indicates prompt removal. Makai reported 3 cases in 1907, Walther one last year and da Costa a similar one. Nearly two pages of bibliography and a dozen illustrations accompany the long article.

71. **Treatment of Femoral Hernia.**—Vallas and Perrin think that the main point in operating on a femoral hernia is to obliterate the sac high up. This is the only means to prevent relapse, and it can be best accomplished by obtaining access to the sac through the inguinal canal. This remedies the conditions causing the predisposition to hernia, while it does not weaken the femoral canal. The conditions in the femoral canal do not favor its permanent closure. They add to the five previously published, seven new cases in which this inguinal method of treating femoral hernia was successfully applied; the patients were between 20 and 40, all employed in laborious work which they were able to resume the day they left the hospital, without necessity for special precautions. The hernia recurred in two of the twelve cases, once in consequence of secondary local suppuration and once on account of an unusually difficult childbirth after an intervening year of health.

72. **Lumbar Puncture in Treatment of Trauma of the Skull.**—Savy reports the case of a woman of 43 who fell from a second story window; subconjunctival ecchymosis suggested the possibility of a fracture of the base of the skull, but no operation was attempted, as the patient rapidly recovered. Three months later weakness and stiffness of the legs with persistent headache and in the course of a few weeks other symptoms indicating a meningeal process developed, and the patient complained of pain along the sciatic nerves. Lumbar puncture allowed the escape of blackish blood, a drop at a time. Improvement followed the second and third lumbar

puncture, but the fourth brought neither fluid nor blood. About 40 c.c. in all of the bloody effusion was evacuated, and the symptoms gradually subsided to complete recovery by the end of a month. The long interval of latency, the possibility of evacuating the blood at this late date, the rapid improvement and final recovery, all emphasize the importance of lumbar puncture in case of injury to the skull. He thinks that the extravasated blood did not cause the symptoms so much by compression as by the toxic action of the decomposing blood. Consequently, he advises lumbar puncture, even if a long interval has elapsed since the primary trauma, in all cases of nervous disturbances possibly to be attributed to this cause.

Obstétrique, Paris

April, N. S., II, No. 4, pp. 241-311

74 Tubular Menstruation. (Recherches sur la menstruation tubaire.) F. Delporte.
75 *Serodiagnosis of Syphilis in Pregnant Women and New-Born Infants. (Recherches sur le sérodiagnostic de la syphilis chez la femme enceinte et l'enfant nouveau-né.) P. Bar and R. Daunay. Commenced in No. 3.
76 Spontaneous Healing of Rectovaginal Lacerations During Childbirth. (Guérison spontanée des déchirures recto-vaginales produites au cours de l'accouchement.) C. Jeannin.

75. **Seroreaction in Pregnant Women and New-Born Infants.**—This communication from the Tarnier maternity at Paris gives the findings of the Wassermann test with 57 infants and their mothers, with a number of controls. They seem to show that with florid syphilis in the mothers the serum reaction in the infants is less frequently positive than when the maternal syphilis is quiescent or merely probable or suspected. The reaction is inclined to be negative in infants whose syphilitic mothers have been thoroughly treated. Negative findings in the infant of a woman with florid syphilis do not authorize the assumption that it is free from syphilis; positive findings have the same significance as in the mother. At the same time, the writers state, partial or doubtful reactions are obtained frequently with infants whose mothers are free from syphilis beyond question. There seems to be some factor, besides syphilis, in the new-born which has a tendency to modify the reaction toward a positive result. This occurred in their tests generally in connection with bile pigments in the serum or a lactescent serum. A positive or partial reaction was obtained with the cerebrospinal fluid of infants with syphilitic paralysis, untreated.

Presse Médicale, Paris

June 2, XVII, No. 44, pp. 401-408

77 Wounds of the Chest. (Plaies de poitrine et thoracotomie.) P. Riche.
78 Massage and Exercises in Treatment of Hemiplegia. (Traitement kinésithérapique des hémiplégiques.) P. Kouindjy.

June 5, No. 45, pp. 409-416

79 *Sudden Death in Incipient General Paralysis. (La mort subite dans la paralysie générale au debut.) J. Roubinovitch and H. Paillard.
80 *The "Alternating Suture" for Enteroanastomosis. (Procédé rapide de suture intestinale.) H. Chaput.

June 9, No. 46, pp. 417-424

81 Diagnosis of Facial Neuralgias. F. Levy.

79. **Sudden Death in Incipient General Paralysis.**—This occurred in 10 out of 238 cases of general paralysis at Bicêtre since 1901; adding this number to others on record, we have a proportion of 4.6 per cent. of 538 cases. An additional case is described in detail; the patient was a man of 33, infected with syphilis eleven years before. A year ago he became melancholy and talked of suicide, but was restored to apparent normal condition for a few months by a month of mercurial treatment, but then signs of general paralysis developed with progressive maniacal excitement and sudden death for which no organic cause could be discovered.

80. **The Alternating Suture.**—Chaput applies this term to a suture made by drawing the tissues to be sutured alternately across to the other side over the tip of the long, straight needle, which thus pierces each in turn. The lips of the wound fit into each other in a series of scallops through which the needle passes in a straight line. After the needle has been drawn through, the lips of the wound spring back into place to form a straight line, and each stitch forms a U. Drawing the thread tight again straightens it, and the lips of the wound again fit into each other in a series of alternating scallops. This suture takes little time and has other advantages which he enumerates in connection with the three illustrations.

Revue de Chirurgie, Paris

May, XXIX, No. 5, pp. 875-1028

82 *Peptic Ulcer in Jejunum. (La fistule jéjuno-colique par ulcère peptique du jéjunum à la suite de la gastro-entérostomie.) G. Lion and C. Moreau.

82. **Peptic Ulcer of the Jejunum.**—Lion and Moreau state that only 3 cases have been reported to date of a fistula between the jejunum and the colon, the result of a peptic ulcer in the jejunum, but they have found records of 40 cases of the latter. Only 4 of the patients were women. They report 2 additional cases of fistula formation with a peptic jejunal ulcer, and discuss the pathologic anatomy and symptoms, which include diarrhea, eructations with fecaloid odor, vomiting and pain. The diarrhea is always exceptionally severe and abundant, resisting all treatment but showing sometimes the influence of food and then appearing three or four hours after meals. Other signs are the excessive peristalsis, paradoxical splashing sounds and dulness below. The details of the 5 cases with fistula are given in full.

Semaine Médicale, Paris

June 2, XXIX, No. 22, pp. 253-264

83 *Aortic Insufficiency without Murmur. (Les insuffisances aortiques sans souffle.) L. Bard.

83. **Aortic Insufficiency Without Murmur.**—Bard believes that many cases of aortic insufficiency escape recognition on account of the absence of the characteristic diastolic basic murmur, but that the condition can be readily diagnosed by the peculiar dome protuberance of the wall over the apex which is lifted up in a dome at each heart impulse—the *choc en dôme*. Its absence, when other signs of aortic insufficiency are pronounced, indicates accessory complications, possibly pericarditis. It is seldom absent in the young, and it occurs in several varieties of aortic insufficiency as he describes in detail. Differentiation is important from several standpoints, especially from that of kidney disease. The detection of the dome push against the chest wall before the development of the murmur may reveal aortic insufficiency in its incipiency, before any other sign suggests it.

Beiträge zur klinischen Chirurgie, Tübingen

April, LXII, No. 3, pp. 593-820

84 Operative Treatment of Abdominal Injuries. (Zur Chirurgie der Bauchverletzungen.) W. Weber.
85 Local Anesthesia for Major Operations. (Lokalanästhesie im [illegible] erkungen über die Technik der [illegible] H. Braun.
86 *T[illegible] and Cholecystitis. M. Friedemann.
87 Ultimate Results of Circular Suture of Arteries and Implantation of Veins. (Beiträge zur Gefässchirurgie.) R. Stich, M. Makkas and W. Capelle.

86. **Operations on the Bile Passages.**—Friedemann has examined again recently 155 patients operated on for cholelithiasis or cholecystitis between 1901 and 1907, and tabulates the operative and ultimate findings. They show good results in cases in which intervention was restricted to conservative measures, while nervous or other disturbances still persist in 10 of the 15 patients in whom the gall bladder was removed.

Correspondenz-Blatt für Schweizer Aerzte, Basle

May 15, XXXIX, No. 10, pp. 329-360

88 *Serodiagnosis of Syphilis in Practice. (Klinische Verwendbarkeit der Wassermann-Neisser-Bruck'schen Seroreaktion.) H. Merz.
89 *Importance of Diazo Reaction in Prognosis of Tuberculosis and other Infectious Diseases. J. P. Gwerder.

88. **Serodiagnosis of Syphilis.**—This communication from Neisser's clinic goes over about the same ground as in articles from there recently summarized in these columns. The findings in 1,892 cases are analyzed.

89. **Diazo Reaction in Prognosis of Infectious Diseases.**—Gwerder's research has demonstrated that the substances responsible for the diazo reaction may in certain cases be present in the serum but for some reason fail to show the reaction. On the other hand, it is possible that patients showing a pronounced diazo reaction may improve until the test gives transient or permanent negative findings. Only when the re-

action is obtained on repetition of the test over a long period can it be regarded as necessarily of bad omen.

Deutsche medizinische Wochenschrift, Berlin

June 3, XXXV, No. 22, pp. 961-1000

90 *Treatment of Gastric Ulcer. (Behandlung des Magengeschwürs.) W. von Leube.
91 *Respiration and the Work of the Heart. (Atmung und Herzarbeit.) H. Cornet and J. Berninger.
92 *Treatment of Empyema. Treibmann.
93 Peripheral Nerves and Trauma. (Peripherische Nerven und Unfall.) H. Kron.
94 *Chronic Chorea after Migraine. T. O. Schabad.
95 *Tl Reaction in New-Born Infants
Pirquetsche Tuberkulinprobe bei
Müttern.) Poten and Griemert.
96 Tl lis. A. Galambos.
97 Rc of Tympanic Membrane under
bei Trommelfellperforationen.)
A. Heermann.

90. **Treatment of Gastric Ulcer.**—At the recent German congress for internal medicine, Lenhartz reported his success in 295 cases of gastric ulcer treated according to his principle of a more nourishing diet than that allowed by von Leube, which has been the standard for so long. In 262 cases there had been a hemorrhage just before treatment was commenced, and in 33 the stool contained blood, but his total mortality was 2.3 per cent., and only 18 patients had hemorrhage after treatment was commenced. He commented on the prompt recovery and the lack of weakness. In this article von Leube replies to Lenhartz, maintaining that his thirty years of experience and especially the 627 cases of gastric ulcer in which he has applied his "rest cure" during the last eleven years have fully confirmed the advantages of his technic while he sees possibilities of danger in following Lenhartz's directions. Fully 90 per cent. of his patients were cured; 8.5 per cent. improved, and only 1 per cent. failed to benefit, while the mortality from hemorrhage was 0.3 per cent. He is convinced that the only way to induce the production of the life-saving thrombus and thus check the tendency to hemorrhage is to keep the stomach absolutely at rest; the patient is kept in bed with a single dose of 30 drops of a 1 per thousand solution of adrenalin supplemented by bismuth, an ice bag over the stomach, an injection of morphin to keep the stomach quiet (never for its pain-reducing properties), and complete abstinence from food by the mouth. Ingestion of egg or milk may bind the acid, but at the same time they stimulate the peristaltic movements of the stomach, which it is the aim of treatment to avoid. Only after the stool has lost its admixture of blood and other signs show that the hemorrhage has been arrested, which is usually the case in two or three days, he then cautiously commences a liquid diet in the course of one or two days. The patients may lose in weight at first, but they have made it up and more by the end of the second week. He refrains from iron on principle, as ulcer patients do not seem to tolerate it well, and study of 25 cases on the liquid diet for two weeks did not show any special reduction in the hemoglobin. Laxatives must be strictly avoided. The four elements of his "rest cure" are the absolute rest in bed; one glass of tepid Carlsbad water twice a day, fasting; hot flaxseed poultices, renewed every ten or fifteen minutes, applied continuously for twelve hours, at night a wet linen cloth being substituted. The special diet completes the course of treatment, and he emphasizes the fact that the combination of these four factors is indispensable for the best results, and that complete abstinence from food until the hemorrhage has been arrested is the only safe and commendable method.

91. **Respiration and the Work of the Heart.**—Cornet and Berninger have been applying in the treatment of affections of the myocardium a mechanical method of increasing the respiration which in turn increases the action of the heart with better arterial nourishment throughout. A number of cases are reported in which the deeper breathing had an unmistakable effect in increasing the functioning of the heart and its blood supply, with the other advantages of increased ventilation in the lungs. The apparatus used is a large chair with small electromotor beneath which works two pads that spring against the chest during the phase of expiration, compressing the chest with adjustable force and springing back during inspiration. Residual air is thus squeezed out of the lungs and inspiration is rendered much deeper. Experiences with 100 patients with asthma, bronchitis, etc., demonstrated the benefit of this measure, and tests on 31 persons with normal hearts confirmed the physiologic improvement which it induced. In health the blood pressure does not change, but in 54 patients with heart disease the systolic blood pressure varied from 16 to 64 cm. water. This chair apparatus has rendered good service in chloroform, carbon monoxid, morphin and other poisoning, it being thus possible to keep up artificial respiration for fifteen and eighteen hours. Michaelis has reported a case of carbon monoxid poisoning with total apnea in which the apparatus worked for twenty-four hours until the natural respiration was fully restored; at every attempt before this to remove the apparatus, the respiration ceased. It maintains a nearly isolated action of the heart, and the changes in the blood pressure permit oversight of the functional capacity of the heart.

92. **Treatment of Empyema.**—Treibmann criticises unfavorably the method of treating empyema of the pleura recently advocated by Pust and described in these columns April 3, page 1149. It makes much greater demands on the patient's resisting powers than the ordinary technic of siphon drainage which gave 92.1 per cent. cures in 38 cases of empyema in his experience in the ten years ending 1904. The drainage was kept up on an average of 55 days; only 2.6 per cent. of the patients were not benefited; other clinics have reported equally favorable results. The siphon drainage is applicable only for the non-malignant cases and when simple topographical conditions permit; tuberculous or purulent empyema, and empyema with cavities generally require surgical measures.

94. **Chronic Chorea After Migraine.**—The patient was a woman of 50 who had had migraine recurring about every month or oftener, since the age of 22 except during one of her twelve pregnancies, during which she suffered from chorea. The chorea later became chronic, and Schabad thinks that the case throws some light on the origin of chorea, especially as migraine has been known to blend into epilepsy. The migraine is probably only a functional affection of the vasomotors in the brain, but its repetition may induce various anatomic disturbances, such as extravasation of blood into the brain, softening of the brain, hemorrhagic pachymeningitis, hypertrophy and thickening of the hemispheres or thrombosis of the internal carotid. Some of these changes are found at autopsy of persons suffering during life from chronic progressive hereditary chorea.

95. **The Cutaneous Tuberculin Test in the Very Young.**—Poten and Griemert applied the Pirquet test in 53 children less *than two weeks old and in 4 less than four weeks old*, the mothers being apparently free from tuberculosis. Not one of the children showed a trace of reaction, not even on a repetition. They regard this as conclusive evidence that negative findings positively exclude tuberculosis. The unreliability of the cutaneous test for the diagnosis of active tuberculosis is now generally recognized; it is so extremely sensitive that it apparently reveals every focus of tuberculosis, no matter how harmless. But, they add, this great sensitiveness may prove of inestimable service in the recognition of incipient tuberculosis in children. The moment that the negative reaction *of the infant becomes transformed into ever so weak a positive* reaction, the enemy has penetrated into the body. In order not to overlook this moment, so as to be able to combat the foe at once, the cutaneous test should be repeated once or twice a year or still more frequently. They say that the simplicity of the test and its absolute harmlessness render this by no means an utopian idea; it opens a prospect for a rational and effectual fight against tuberculosis, while the infection is still capable of being promptly eradicated.

Medizinische Klinik, Berlin

June 6, V, No. 23, pp. 837-874

98 *Diagnosis of Brain Tumor. (Zur Diagnose des Hirntumors.) A. Schüller.
99 *Roentgen Findings in Digestive Tract. (Neuere besonders radioskopische Ergebnisse aus dem Gebiete der Magen und Darmuntersuchungen.) C. A. Ewald and M. Cohn.
100 Mechanotherapy of Nerve, Heart and Metabolic Disturbances. (Neuerungen auf dem Gebiete der Heilgymnastik der Nerven, Herz und Stoffwechselkrankheiten.) S. Munter.
101 Biologic Research in Balneology. A. Bickel.
102 Seaside Sanatoriums for Children in Europe. (Die Kinderseehospize Europas und ihre Resultate.) Häberlin.

98. **Diagnosis of Brain Tumor.**—Schüller reviews the various symptoms of brain tumor and calls attention to the fact that headache may be intermittent, more like migraine; this is especially liable with tumors in the hypophysis region. In one case this recurring migraine was the only symptom that suggested the tumor, finally revealed by the Roentgen rays. Choked disc and vomiting may be lacking in the picture of a tumor in the frontal region, but changes in the character are liable with this form. Somnolency may suggest a tumor in the third ventricle. The syndrome of pseudotumor occurs suddenly, generally in children or young adults, and although presenting choked disc, Jacksonian epilepsy and hemiplegia, it may subside completely, disproving the existence of an actual tumor. The latest figures give still a mortality of 30 per cent. and permanent recovery in only 5 per cent., but even this is a great gain as the patients are doomed without intervention.

99. **Roentgen Examination of the Digestive Tract.**—Ewald and Cohn review their experience with various tests and Roentgen examination of the digestive tract. The most instructive information is obtained in affections of the esophagus. The findings also show that the tonus of the stomach wall is normal far less frequently than was formerly supposed. Inflation of the stomach causes it to expand in all directions, and the organ is generally found horizontal, while the Roentgen rays, with bismuth dragging the stomach down, usually show it more perpendicular; the patient generally reclines for inflation and stands for Roentgen examination. The Roentgen rays are of little use in incipient gastric cancer in most cases, but they are important for differentiation o hour-glass stomach and to reveal the cause for the epigastric tender points. Castor oil is indispensable in preparing patient for Roentgen examination of the abdominal organs; it does not draw much water from the intestinal walls. Fluid in the bowel is the worst enemy of Roentgen research. False impressions are obtained when the skiagrams of the digestive tract are taken within a few minutes. The most instructive findings are obtained with exposures made in the course of 48 hours, during which the conditions are examined at intervals with the screen.

Münchener medizinische Wochenschrift

June 1, LVI, No. 22, pp. 1113-1160

103 *"Phrenocardia;" a Special Heart Neurosis. (Ist die von Max Herz beschriebene "Phrenocardie" eine scharf abzugrenzende Form der "Herzneurosen?") W. Erb.
104 *Peripheral Greenish-Brown Discoloration of the Cornea as Symptom of a Special General Nervous Disease. (Die periphere ng. als Symptom einer R. Fleischer.
105 *Two Cases (2 Fälle von Fremdkörperaspiration.) H. Bayer.
106 Morning's Milk in Infant Feeding. (Verwendung der Morgenmilch für Säuglinge.) H. Berger.
107 Two New Instruments for Testing Hearing. (Neuerungen auf dem Gebiete der funktionellen Prüfung des Gehörorganes.) R. Dölger.
108 Importance for Prognosis of Hemolysis by Streptococci. W. Sigwart.
109 Study of Neutrophile Blood Picture. (Zur Untersuchungsmethode des neutrophilen Blutbildes.) R. Kothe.
110 *How Typhoid Fever Spreads. (Art der Typhusausbreitung in einer Stadt.) H. Kayser. Commenced in No. 21.
111 Successful Removal of Tumor in Cervical Spinal Cord in Two Cases. (Beiträge zur Neuro-Chirurgie.) H. Oppenheim and F. Krause. Commenced in No. 20.

103. **Cardiac Neurosis.**—Herz has recently described a special neurosis affecting the heart, which he calls "phrenocardia," and defines as a "sexual psychogenic cardiac neurosis." The syndrome includes characteristic paroxysmal localized pain in the heart, shooting pains, palpitations, tachycardia, painful breathing, oppression, anguish and sometimes nervous chills, deep sighing and voiding of large amounts of pale urine, but no actual dyspnea. The physical findings in the heart appear entirely normal. The Roentgen rays reveal that the diaphragm is very low; sometimes the heart is abnormally movable, and sometimes there may be a slight systolic murmur and duplication of the first sound, but never any change in the blood pressure. These alarming attacks occur generally in the evening or night and may last for one-half or several hours and may recur nightly or at longer intervals. The condition is more frequent in middle-aged women than in men, but may occur at all ages. Herz assumes as the essential and most frequent source abnormal or exaggerated sexual longings, generally disappointment in love or loss of husband or wife, although every possible sexual occurrence may be connected with it. Erb here reports 25 cases, 15 of which, including 11 females, are typical of the neurosis as Herz has described it. The erotic basis was more than probable in a number. In 5 other cases the affection was manifestly connected with the genital organs as it recurred at pregnancy or postpartum, or with chronic metritis with menorrhagia, onanism, chronic gonorrhea or syphilophobia. Besides psychotherapy, tonics and sedatives as for neurasthenia and hysteria form the basis of treatment, while the actual heart tonics, the stronger hypnotics, are contraindicated except in special circumstances. In conclusion Erb accepts this syndrome as an entity, although its definition as necessarily of sexual origin is not yet fully established.

104. **Discoloration of Cornea as Symptom of Constitutional Disturbance.**—*Fleischer adds two more to the two cases previously reported from the Tübingen clinic by Kayser in which a nervous affection resembling multiple sclerosis was accompanied by a greenish-brown discoloration of the cornea similar to that of bronzed diabetes. In three of the four cases there was a history of acute articular rheumatism. The most striking symptom was progressive tremor. No signs of true sclerosis could be discovered at autopsy.*

105. **Aspiration of Sequester.**—Bayer reports a case in which *autopsy revealed a molar of the first dentition as the cause of the fatal lung abscess in a boy of nine.* A similar abscess in the second case was explained by the discovery of a sequester from a syphilitic perforation of the hard palate. Both foreign bodies had been aspirated into the right bronchus.

110. **Distribution of Typhoid in a City.**—The German authorities have made a special study of typhoid in the city of Strasburg, the most advanced ideas in regard to detection of sources of infection and means to extinguish them having been put in action. Kayser here presents the data learned in the course of this four-years' campaign. A total of 505 cases of typhoid were recorded—about 0.92 per thousand inhabitants. In 32 cases paratyphoid bacilli were involved. Certain streets in the city are entitled to be called "typhoid streets," as only 23 per cent. of the total cases occurred isolated on a street. In 479 cases, the 384 houses involved were on 216 streets, this predilection for certain streets being explained by discovery of chronic bacillus carriers on some of these streets. Fully 73 per cent. of the 804 streets of Strasburg were entirely free from typhoid although many were closely populated. The various occupations are tabulated in comparison with the frequency of typhoid, the results showing that it can almost be classed as an occupational affection for persons dealing in food materials, for cooks, housemaids, laundry and dairy employés and bakers. Fully 2.6 per cent. of the bakers of Strasburg contracted typhoid, probably from drinking raw milk. Midwives, druggists, shoemakers, teachers, dressmakers, tailors and porters also suffered in large measure from the disease—that is, all classes of persons who come into close personal touch and contact with others, while occupations in which this does not occur to such an extent were almost exempt from the disease: artists, smiths, textile and other industries, stonecutters, brewers, etc. It was found that raw milk was probably responsible for 26.7 per cent. of the cases; contact with patients for nearly 17 per cent.; and with bacillus carriers for 9.5 per cent., while the drinking water was incriminated in 14.6 per cent. No source for infection could be discovered in 13 per cent. and 13 per cent. of the patients arrived in town already infected. The temperature seemed to influence the number of cases, the effect of the temperature being felt a month afterward, the maximum occurring in August, the minimum in February. The warmer weather causes more copious drinking and thus more opportunity for infection, while the germs proliferate more readily in the food and are distributed by sweaty hands, while the opportunities for bathing and swimming add to the chances for contagion, the traveling, the flies and dust, and the bathing in dubious water. Three-fourths of the patients were under 30, and a little over one-fourth were children. Among the prac-

tical measures suggested by these experiences and enforced at Strasburg are the necessity for trained nurses to care for typhoid patients, periodical instruction of school children in regard to the dangers of contaminated waters and the necessity for keeping water supplies free from pollution, press notices in regard to the dangers from raw milk, buttermilk and ice, and special regulations for bacillus carriers and their homes. Among the 28 bacillus carriers discovered were 4 children and 9 chronic carriers, with 8 carriers who lost their bacilli after a few months. The list included 2 housemaids, 2 bakers' wives, 1 tramp, 1 tailor and 1 capitalist. The fate of the bacillus carriers is dreary; one girl of 20 was dismissed from the factory on this account and from service as a chambermaid later, when the family learned her history. Her reputation as a carrier followed her to another town until bacteriologic tests gave negative findings, probably because she had substituted another's stool for examination. When dismissed from the factory she applied to the hospital to be freed from the bacilli and perseveringly submitted to a Naunyn gallstone course of treatment, with other measures, but all to no avail. After several experiences of this kind, Kayser refrained from informing the environment of the carrier's condition when he felt that circumstances allowed this, merely impressing the necessity for prophylactic measures on the carrier with minute directions, urging disinfection of the hands after defecation, the use of a pit privy, and warning against leaving urine or stools near streets, water courses and cultivated fields. In one instructive case the mother was a bacillus carrier, but for eleven years the family lived in hygienic conditions in town and there was no contagion. The family then moved into an unfinished house in the suburbs where the well was not protected against privy pollution, and two of the children developed typhoid and one died. In another case fruit and cake brought from another town evidently transmitted the contagion, as a bacillus carrier was found in the family of the donors. The man had typhoid first and the wife escaped for a year when typhoid developed after a contusion of the abdomen. Another bacillus carrier infected her son and daughter, and still disregarding the advice as to prophylactic measures, infected a married daughter who lived in the same street, and also the latter's child who died. On account of the danger from swimming in polluted waters, Kayser states that well-kept public baths and swimming tanks are important aids in the prophylaxis of typhoid.

Therapie der Gegenwart, Berlin

June, L, No. 6, pp. 265-312

112 *Gelatin in Therapeutics. O. Wandel.
113 Breathing Exercises in Asthma. (Atmungstherapie bei Asthma.) H. E. Knopf.
114 *Tardy Complications of Brain Abscess after Successful Operation. (Spätkomplikationen des Hirnabszesses nach erfolgreichen Operatio[illegible] L. J[illegible]
115 Dosage of Alcoho[illegible] ‘Die Alkoholdosierung vom [illegible] Standpunkt aus.) W. H. Becker.

112. Gelatin in Therapeutics.—Wandel remarks that gelatin has not disappointed the anticipations aroused when it was introduced into therapeutics as a hemostatic about twelve years ago. Its field of usefulness includes lung, stomach, bowel, uterus and other hemorrhages, but it is also valuable in constitutional affections of the blood entailing a hemorrhagic tendency. The technic at Quincke's clinic at Kiel aims to destroy anaerobic spores and protect the gelatin from external influences. This is accomplished by sterilizing a neutralized 10 per cent. solution of gelatin in an Erlenmeyer jar with a layer above of fluid paraffin to keep out oxygen. A long glass tube reaches to the floor of the jar, the upper end capped with a rubber tube and stop-cock. A larger short tube in the stopper, filled with cotton, allows the entrance of air. The whole is sterilized in a linen bag in steam for 40 minutes at 100 C. (212 F.). After cooling, it is kept in the incubator at 37 C. (98.5 F.), then sterilized again for 30 minutes as at first, and this is repeated for 15 minutes the following day. The gelatin thus sterilized is poured into vials containing 50 c.c., which are then fused. In a number of tests the gelatin was inoculated with garden soil and tetanus spores, but after this sterilization inoculation of guinea-pigs always gave negative results.

114. Tardy Complications After Operative Treatment of Brain Abscesses.—In the case described, alarming symptoms suddenly developed in a healthy woman of 30 suggesting epilepsy, eclampsia, uremia or serous meningitis, but the diagnosis by exclusion was finally that of irritation of the cortex by some sequel of a brain abscess which had been successfully operated on seventeen years before with no disturbance in the interim. The symptoms subsided in a week as suddenly as they came, and there has been no trouble since. Jacobsohn has found three similar cases on record of tardy complications, and he remarks that he knows of only four cases of brain operations followed for an interval of from eight to nineteen years.

Wiener klinische Wochenschrift, Vienna

June 3, XXII, No. 22, pp. 771-802

116 *Physical Development of Cretins under Thyroid Treatment. (Grössenwachstum bei Schilddrüsenbehandlung des endemischen Kretinismus.) A. von Kutschera.
117 *Ulcers in Palate in Typhoid. (Gaumengeschwüre bei Ab[illegible] Novotny.
118 *[illegible] of Eclamptics. (Vorkommen lezithin-[illegible] komplementbindender Substanzen im [illegible] E. Gross and E. Bunzel.
119 *Improved Technic for General Anesthesia. (Erfahrungen über das Narkotisieren.) R. Frank.
120 Treatment of Artificial Anus. O. von Frisch.

June 10, No. 23, pp. 803-838

121 Importance of Medical Clinic for General Medical Training. (Antrittsvorlesung.) A. von Strümpell.
122 Serum Reactions in Tuberculosis of Lungs and Skin. (Serologische Untersuchungen bei Tuberkulose der Lunge und der Haut.) E. Eitner and E. Stoerk.
123 Experimental Adrenalin Arterionecrosis. (Zur Frage der Adrenalin-Arterionekrose und deren experimenteller Beeinflussung.) F. Falk.
124 Optic Neuritis resulting from Uncontrollable Uterine Hemorrhages Cured by Vaginal Hysterectomy. R. Marek.
125 Operative Injury of Thoracic Duct. J. Gobiet.

116. Thyroid Treatment of Cretinism on Immense Scale.—Since 1905, the Austrian government has been supplying thyroid tablets free of charge in seven endemic foci of cretinism with medical inspection twice a year. About 108,600 tablets were thus distributed in 1907, and 157,900 in 1908, the number of persons taking them was 1,011, and 608 were still under the thyroid treatment at the close of 1908. The results are tabulated here under various headings, special attention being paid to the increase in height as the most certain index of the benefit derived. Other findings are more liable to be influenced by subjective impressions. The report states that the results have been extremely satisfactory, confirming the efficacy of thyroid treatment as a prophylactic measure especially in endemic foci of cretinism. In 677 cases followed to date marked improvement was obtained in 48.6 per cent., and only 8.6 per cent. showed no benefit from the course. The most striking proof of the beneficial influence of thyroid treatment on the growth is the fact that in 377, that is, in 85.7 per cent. of all cases, the former dwarf cretin children grew to be taller than the normal standard for their age. As a rule, treatment was restricted to school children; the oldest cretin was 26 years old. Even after 20 a number of the cretins grew much taller and the other symptoms of cretinism became attenuated. This growth at this age is so surprising that it seems as if the growing power of the preceding years had been held in reserve, until suddenly released by the thyroid treatment, when it made all its force felt in a relatively short period. A large number of the more interesting cases are cited in detail. One cretin 20 years old grew 11 cm., but then refused to continue treatment as he outgrew his clothes too fast. He did not lose his milk teeth until after thyroid treatment was commenced, although those of the second dentition were in place.

117. Ulceration in the Palate in Typhoid.—Novotny states that in 102 cases of typhoid at Chvostek's clinic at Vienna during the last ten years larynx or palate complications, or both, have been observed in nearly 24 per cent., including 6 cases of severe ulceration in the palate. In one case besides the typhoid bacilli in the blood, stools and urine, paratyphoid B. bacilli were cultivated from the ulcer in the palate.

118. Serum Reaction in the Blood of Eclamptics.—Gross and Bunzel obtained a precipitating and complement-binding reaction in the blood of six women in eclampsia, while the tests were invariably negative in normal pregnant and lying-in women.

119. **Auto-anesthetization.**—Frank ascribes great pathogenic importance to the mental excitement of the patient as the preparations are made for an operation. Anxiety, fear, disagreeable sensations induced by the odor of the chloroform and other emotions influence the patient's mind so that it is easy to understand that this intense psychic commotion may induce sudden heart failure before the effect of the anesthetic is felt. True chloroform syncope is peculiar to the beginning stage of the anesthesia before the consciousness is lost, and this is the most dangerous phase for arrest of the heart action. The asphyxia and other disturbances occurring later in the anesthesia are of an entirely different quality from those of this preliminary stage. In several years' experience he has found that all this fright and excitement can be avoided by the simple method of allowing the patient to anesthetize himself. He is given the mask and chloroform; no one holding or compelling him, the anesthetist merely encouraging and praising his efforts and urging him to count aloud. This method is particularly useful for children, as they are interested in the mask and are allowed to sit up and examine it and apply the chloroform themselves. The method is not needed for tranquil patients, but is much safer for the timid, the excited, the worried and for hard drinkers and children. It takes no more time than the usual technic; the anesthetist assumes his task as the patient loses consciousness.

Zentralblatt für Chirurgie, Leipsic

June 5, XXXVI, No. 23, pp. 825-856

126 Technic of Appendicectomy. Bertelsmann.
127 Portable Apparatus for Positive Pressure. (Portative Ueberdruckapparate; welche Kammer; Injektorintubation.) E. Kuhn.

Zentralblatt für Gynäkologie, Leipsic

June 5, XXXIII, No. 23, pp. 801-832

128 Case of Galactorrhea following a Burn. (Fall von Galactorrhoea post combustionem, zugleich ein Beitrag zur Lehre des Antagonismus zwischen Brustdrüsenfunktion und Ovulation.) E. Vogt.
129 Permanent Cure in a Case of Chorioepithelioma with Metastases. A. Labhardt.
130 The Endometritis Question. J. Voigt.

June 12, No. 24, pp. 833-864

131 Shortening Round Ligaments by way of Inguinal Canal. (Die subfasciale Eröffnung des Inguinalkanals behufs Kürzung der Ligamenta rotunda.) A. Littauer.

Gazzetta degli Ospedali, e delle Cliniche, Milan

May 27, XXX, No. 63, pp. 665-672

132 Negative Results of Treatment of Angioma with Carbon Dioxid Snow. (Sulla pretesi efficacia della cura degli angiomi con l'acido carbonico congelato.) D. A. Lucio.

May 30, No. 64, pp. 673-688

133 Idiopathic Dilatation of the Colon. (La Malattia di Hirschsprung.) A. Rossi.

June 6, No. 67, pp. 705-720

134 *Reaction of the Urine Important Factor in Typhoid Bacteriuria. (Importanza della reazione dell'orina nella bacteruria tifica). R. Caretto.

June 8, No. 68, pp. 721-728

135 *"Xanthochroic Bodies" in Stained Urine. (Nuovo elemento colorabile del sedimento urinario.) E. U. Fittipaldi.

June 10, No. 69, pp. 729-736

136 *Is There a Syphilitic Diabetes? (La frequenza del diabete mellito tra i sifilitici.) G. Sarra.

134. **Reaction of the Urine Important Factor in Typhoid Bacteriuria.**—Caretta states that research at the Turin clinic with urine drawn directly from the kidneys and from the bladder demonstrated that when the urine gave an alkaline reaction the bacteria proliferated in it, while an acid urine seemed to keep their growth within certain narrow bounds. It further showed that stagnation in the bladder favored the multiplication of bacteria even when the urine from the kidneys was comparatively sterile. After the patients were given sodium bicarbonate, the growth of typhoid bacteria in the urine was seen to be much more profuse, although there is a remote possibility that the greater numbers of bacilli found in the bladder were the result of increased elimination by the kidneys under the influence of the alkali.

135. **"Xanthochroic Bodies" in Stained Urine.**—Fittipaldi calls attention to certain bodies in urine sediment which resemble tube casts, except for the different way in which they take the eosin and acetic acid stain.

136. **Is There a Syphilitic Diabetes?**—Sarra states that there are less than fifty cases on record in which the symptoms of diabetes were observed in a syphilitic, and yet in a number of them treatment directed against syphilis caused the subsidence of the diabetes, which had previously resisted antidiabetic measures. In such cases it must be admitted, he says, that the syphilis does not by itself produce the diabetes, but only that the location of some of its manifestations induces the syndrome of symptomatic diabetes.

Policlinico, Rome

June 6, XVI, No. 23, pp. 709-740

137 *"Karell Cure" [illegible] Compensation in Heart Dise[illegible] [illegible]ra Karell in certi scompensi ([illegible]
138 *Special Sign [illegible] Meralgia. (Sopra uno special [illegible] [illegible]ralgia parestesica.) G. Impallomeni.
139 Stricture of the Urethra in Women. (Sul restringimenti uretrali nella donna.) F. Cuturi.

June, Medical Section, No. 6, pp. 241-283

140 Kala-azar in Sicily. U. Gabbi.
141 Experimental and Clinical Research on Strophanthin. (Sull'azione della strofantina.) C. A. Crispolti. Id. P. Ettore.
142 Metabolic Findings in Addison's Disease under Suprarenal Treatment. (Il ricambio materiale in un caso di morbo di Addison in rapporto al trattamento organiterapico.) C. Capezzuoli.

137. **Karell Cure in Treatment of Failing Cardiac Compensation.**—Galli has had very favorable experiences with this strict milk diet, described in The Journal, Sept. 5, 1908, page 877. It does no good to attempt it unless the physician is able to maintain it strictly according to rule, not allowing more than the 800 gm. (27 ounces) of milk during the day, taken in four portions. The temperature of the milk is immaterial, as also whether it is boiled or not. This diet must be kept up three to seven days, and it is remarkable, he says, to note the increased diuresis and the disappearance of edema. By the fourth day the diuresis may be six or seven times the amount of milk ingested, while the heart action is improved to correspond. Not only the edema disappears, but the waste products are eliminated to a remarkable extent. In one of his cases with complicating asthma, it vanished entirely after the third day of the Karell cure. The heart is relieved of part of its load by the elimination of such large amounts of fluids, if the heart and kidneys are still capable of functioning. Parenchymatous nephritis offers little chance for success with it; interstitial nephritis is its most grateful field. No drugs are needed except possibly with much cyanosis and dyspnea when a heart tonic may prove useful. The Karell cure is almost ideal, he adds, in obesity with failing compensation. The load of fat imposes extra work on the heart, which resumes normal functioning after the weight has been reduced. From 10 to 40 pounds may be lost in a few days under this Karell diet. The patient must remain in bed during the course. In chlorosis, with doughy tissues and flabby heart, this treatment may also give benefit.

138. **Sign of Paresthetic Meralgia.**—Impallomeni states that it is possible to differentiate this condition by the sharp pain induced when the reclining patient tries to flex, adduct and rotate outward the leg while the examining physician strives to turn it in the inverse direction.

Riforma Medica, Naples

June 7, XXV, No. 23, pp. 617-644

143 Reproduction of the Bruce Trypanosome. F. Valerio.
144 *Comparative Pressure in Brachial and Digital Arteries. (Sfigmomanometria comparata delle arterie omerale e digitale. Importanza clinica e diagnostica.) E. Pesci.

144. **Comparison of the Blood Pressure in the Brachial and Digital Arteries.**—Pesci has found that the difference between the blood pressure in the brachial and digital arteries may aid in the differentiation of certain affections. In arteriosclerosis the brachial pressure is constantly high, but with considerable fluctuation from day to day or even within the twenty-four hours. The digital pressure is constantly low, behaving constantly inversely to the brachial pressure. In atheroma the brachial pressure is normal or below, while the digital pressure is extremely low. In nephritis both brachial and digital pressures are constantly much higher than normal. In heart affections, a rapid and durable reduction in pressure is always

an unfavorable sign in regard to the heart action. In compensated mitral defects, the pressure in both arteries is below normal, while it is above normal when compensation is failing. In aortic defects, the pressure in both arteries is always much higher than normal. In myocarditis, the brachial pressure is high, the peripheral low. He gives the particulars of over two dozen cases of various cardiovascular and kidney affections with these comparative pressure findings. They are especially instructive when the pressure is determined before and after exercise fatiguing the heart. If the heart is functionally capable, the normal proportion between the two pressures is maintained; the lower the peripheral pressure in comparison, the weaker the myocardium.

Hospitalstidende, Copenhagen

April 14, LII, No. 15, pp. 441-472

145 Local Tuberculin Reactions. (Om Conjunctivalreaktion ved Tuberkulose.) F. Tobiesen. Id. (Kutane Tuberkulinreaktion.) C. Gøtzsche and H. Petersen.

April 28, No. 17, pp. 505-528

146 *Red Light and Darkness in Treatment of Smallpox. (Behandling af Kopper i rodt Lys og i Mørke.) C. H. Wurtzen.

May 5, No. 18, pp. 529-568

147 *Early Detection of Cutaneous Eruptions with Optic Means. (Omtidlig Paavisning af Hududslet ved optiske Hjælpemidler.) O. Jersild.

146. **Treatment of Smallpox Under Red Light and in Darkness.**—Wurtzen discusses the method of preventing pitting in smallpox by exclusion of light which was practiced years before Finsen called attention to the action of the chemical rays on the skin. Failure to obtain satisfactory results with the darkness and red light treatment is probably owing to the fact that the chemical rays are not completely excluded. Spectroscopic tests of various samples of red glass revealed a great difference between them in this respect, and showed also that red glass, perfect at first, deteriorated with age in respect to its permeability for the chemical rays. It is safest to darken the room entirely. The adjoining room and corridor should also be darkened or kept in red light so that the chemical rays can not enter when the door is opened. No daylight should be allowed to enter, not even for a moment for the purpose of inspecting better the eruption. Patients bear the red light or darkness differently, some objecting seriously to it, and a few complaining of a feeling of oppression and headache. The attendants find the frequent transition from outside daylight to the darkened room annoying, as the red light makes the retina very sensitive. This latter inconvenience, however, can be obviated by having the attendants wear colored glasses. The red light or darkness method has been applied since 1894 in the hospital with which Wurtzen is connected, and the results have always been satisfactory in the highest degree, so that the exclusion of the chemical rays is now the routine practice. The method can not be applied so well in the home, as it is difficult to ensure the exclusion of all the chemical rays, and the success of the method depends on the perfection with which this is done.

147. **Early Detection of Cutaneous Eruptions by Optic Means.**—Jersild reports extensive tests and clinical experience with optic means to detect eruptions invisible to the naked eye even in bright daylight. He has found that the mercury vapor lamp gives the most striking findings. This simple lamp requires very little electricity to work it and the red and orange rays are entirely absent from its light. Everything with a tinge of red shows bluish in this light, while parts with less blood show greenish. Incipient eruptions thus stand out much plainer than with other practicable optic means. He tabulates the findings with the mercury lamp, with the blue glass method and with Haan's "maculoscope." The observer with the latter inspects the skin through a thin layer of an ammonical solution of copper sulphate. The findings with this and the blue glass method are about the same, but with the mercury lamp they are much more instructive.

Hygiea, Stockholm

April, LXXI, No. 4, pp. 289-416

148 *Cutaneous Tuberculosis. (Om olika former af hudtuberkulos.) M. Möller.

149 *Phototherapy of Laryngeal Tuberculosis. (Om Solljusbehandlingen och öfriga fototerapeutiska metoder vid struptuberkulos.) J. Tillman.

150 Malaria Plasmodium and Relapses. (Fall af intermittens tertiana tillika med några anmärkningar beträffande malaronplasmodierna och recidiven.) M. Bruhn-Fåhræus.

151—Esophagoscopy, Tracheoscopy and Bronchoscopy. W. Waller.

152 Intravesical Diverticula Formed by Ureters. (Om intravesikal divertikelbildning å uretererna.) G. Nilson.

153 Deformation of the Skull. (Om kraniala deformationer, särskildt om scafo- bathry- och clinocefall.) G. Backhan.

148. **Cutaneous Tuberculous Affections.**—Möller refers with pride to the stand taken by the Swedish government in 1903 that lupus patients without means are to be treated free of expense to them, provided the community or private individuals will assume the expense of their maintenance during the time they are taking treatment and of their journey to and from the place of treatment. No other country has made such provision for its lupus sufferers, except Denmark. Even in Germany, nothing has been done for them until quite recently. He is convinced that lupus is far more frequent than generally recognized; in Denmark a collective enquiry disclosed one case of lupus to every 2,000 inhabitants. The great trouble is that the lupus installed in the nose, for example, may be regarded as merely a tedious catarrhal affection, and no attention be paid to it. Even when it spreads below and around the nose it is supposed to be merely eczema, and the patient and his family seldom think of consulting a physician for it. Even if a physician is consulted, unless he bears the possibility of lupus constantly in mind, he is liable to overlook the true nature of the lesion. The lupus thus gets a firm foothold, and even the most energetic treatment then is liable to fail to ensure a permanent cure. The measures aimed to restrict the spread of pulmonary tuberculosis will also prove prophylactic against these cutaneous tuberculous lesions, but the main point in prophylaxis is for district and school medical inspectors, public vaccinators and specialists in children's diseases to keep a sharp watch for cases of incipient lupus so that the disease can be recognized early and arrested, testing for the tuberculin reaction if necessary for differentiation. It is a great misfortune for the patients that it commences so insidiously. Besides the special institutes for treatment of lupus, establishments should be provided where those taking treatment can be conveniently lodged and given a chance to support themselves in some way. Sweden has a model institute and lupus home of this kind, and he gives an illustration of each, with thirty other illustrations of typical cases of lupus, miliary ulcerative tuberculosis and scrofuloderma and various tuberculides, lichen scrofulosus, papulo-necrotic tubercle, nodular tuberculides, etc., before and after Finsen treatment.

149. **Sunlight in Laryngeal Tuberculosis.**—Tillman comments on the fact that nearly three years have passed since any further communications on this subject have issued from the Alland sanatorium, where Sorgo in 1904 claimed to be so successful with sunlight treatment of tuberculous laryngeal lesions. Tillman reviews what nearly two dozen other writers have published on heliotherapy and the few experiences with it in Sweden, and then reports the history of four patients between 21 and 35 in his own sanatorium at Osterasen. His conclusions are that heliotherapy is a simple and harmless method of treatment, effectual when the weather conditions are favorable, and free from the slightest untoward by-effects. The results may be a complete and permanent cure, even in case of extensive but not too diffuse infiltration. It certainly is an important adjuvant to general treatment, and he commends it warmly for further trials. One of his patients has passed through a pregnancy since without recurrence of the throat trouble; another is a public school teacher who has to lead a singing class several times a week, but has no further trouble from his throat since the sunlight treatment, although there is a tuberculous process in the left lung. The lungs were also affected in the third and fourth cases, but the laryngeal process was much improved during the course of sanatorium treatment. He has had no experience with the various other methods of phototherapy, but cites the judgments of others on them.

Norsk Magazin for Lægevidenskaben, Christiania

May, LXX, No. 5, pp. 417-488

154 *Opsonins and Other Antibodies. L. Hektoen.

155 Appendicitis at Christiania. 1888-1907. P. Bull.

156 *Three Cases Suggesting Abortive Neurofibromatosis. (Nævus mollis? Fibrolymphangioma cutis? von Recklinghausen's sygdom forme fruste?) K. Grøn.

157 *Importance of Michaeli's Square in Obstetrics. (Om Michaeli's firkant.) E. Rode.
158 Nature of Anaphylaxis. (Om overømfindtlighedens væsen og dens forhold til immuniteten.) S. Widerøe.

154. This article appeared in the *Journal of Infectious Diseases*, Chicago, February, 1909, and was abstracted in The Journal, March 20, 1909, page 998.

156. **Abortive Neurofibromatosis.**—In the three cases reported by Grøn, the puzzling cutaneous affections suggested soft nevus, fibrolymphangioma and abortive neurofibromatosis, and he does not know under which heading to classify them; two are illustrated.

157. **The "Venus Square."**—The four recesses or dimples at the lower part of the back, which form a square, have been long known to art, but Michaelis at Kiel early in the last century first called the attention of obstetricians to them as a means of determining conditions in the pelvis affecting childbirth. Study of works of art has shown that the ideal of beauty in this respect coincides exactly with the ideal conditions most favorable to an easy delivery. In children the distance between the upper and lower dimple, on the median line, is longer than between the two dimples on each side, and this proportion persists in the male, but in normal women the dimples form a perfect square. The distance between the opposite dimples in Norwegian women is about 4 inches (10 cm.), with the usual distance of 9 inches (25 cm.) between the anterior superior spinous processes of the ilium. The Celtic type of woman, with 22 cm. for this measure, has this Venus square of the same size: 10 cm., and sometimes even 11 cm. between the opposite corners of the square, and childbirth is easy with this type, notwithstanding the smaller interval between the ilia. In German Jewesses the Venus square measures only 9 by 9 cm., but due proportion is maintained, and delivery is easy likewise with this type. Aside from these types, any deviation from the regular perfect Venus square, measuring 10 by 10 cm., should be regarded with suspicion, Rode states, although the discovery of some ancestor belonging to these types may explain apparent discrepancies. In rachitic pelves the upper dimple is apt to be unduly low, and curvature of the spine is suggested when one of the side dimples is farther from the median line than its mate, in which case delivery with vertex presentation is easy or difficult according as the back of the head is in the larger or smaller half of the pelvis. The same woman may thus alternate easy and difficult childbirths from this cause. When the distance between the depressions is less than 9 cm., delivery without artificial aid is a rare exception. Rode's article was read as an address at a conference of midwives; he urges them never to neglect this important help for determining in advance the conditions for the impending childbirth, explaining the anatomic bases for the dimples and their arrangement, and emphasizing the point that the symmetrical regularity of the square is the main point.

Books Received

A Practical Treatise on Rectal Diseases: Their Diagnosis and Treatment by Ambulant Methods. By Jacob Dissinger Albright, M.D. Cloth. Pp. 455, with 32 plates and 39 illustrations. Price, $4. Philadelphia: Published by the Author, 3228 North Broad St., 1909.

Die chemische Entwicklungserregung des tierischen Eies (Künstliche Parthenogenese). Von Jacques Loeb, Professor der Physiologie an der University of California in Berkeley. Paper. Mit 56 Textfiguren. Price, 9 marks. Berlin: Julius Springer, 1909.

Tuberculosis; A Preventable and Curable Disease. By S. Adolphus Knopf, M.D., Professor of Phthisiotherapy at the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 394, with illustrations. Price, $2. New York: Moffat, Yard & Co., 1909.

Eighth Annual Report of the Work of the Cancer Laboratory of the New York State Department of Health. Conducted at the Gratwick Research Laboratory, University of Buffalo. 1907. Paper. Pp. 59.

Further Studies on the Phenomenon of Anaphylaxis. By M. J. Rosenau and John F. Anderson. Hygienic Laboratory. Bulletin No. 50. Paper. Pp. 52. Washington: Government Printing Office, 1909.

Diseases of the Bones and Joints. By Joel E. Goldthwait, M.D., Charles F. Painter, M.D., Robert B. Osgood, M.D. Cloth. Pp. 685, with illustrations. Price, $6. Boston: D. C. Heath & Co., 1909.

Technique of Hydrotherapy and Swedish Massage, As Employed at The Loma Linda Sanitarium, Loma Linda, Cal. Edition 2. Compiled by George Knapp Abbott, M.D. Paper. Pp. 40.

The Greatest Good of Mankind: Physical or Spiritual Life. By William Wenzlick, LL.B., M.D. Cloth. Pp. 374. Price, $1.50 net. Chicago: Published by the Author, 1206 Lawrence Ave.

Report of the Director of Health and Charities for the Fiscal Year 1907-1908, Office of Health, Charities and Correction. Bureau of Health, San Juan, P. R. Paper, Pp. 75.

The Unification of Medical Teaching in the State of Minnesota. A Historical Evening, Dec. 8, 1908. University of Minnesota. Paper. Pp. 88.

The Errors of Mind-Healing. By Reinhold Willman, M.D., St. Joseph, Mo. Cloth. Pp. 179. Price, $1. St. Joseph, Mo.: The Advocate Publishing Co.

New Patents

Recent Patents of Interest to Physicians

922841. Vehicle for hospital and other purposes. W. F. Bernstein, Philadelphia, Pa.
922845. Speculum. C. H. Borden, Hartford, Conn.
922859. Combined abdominal supporter and truss. J. F. Cruff, Cranston, R. I.
923118. Surgical device. C. E. Eckrode, Milltown, N. J.
922810. Irrigator having a constant temperature. E. de N. du Plantier, Paris, France.
922985. Endoscope. R. H. Wappler, New York, N. Y.
923751. Aparatus for mixing and administering gases. G. von Ach, Newark, N. J.
923752. Apparatus for holding and administering gases. G. von Ach, Newark, N. J.
923234. Vibrator. W. F. Acton, Norwalk, Conn.
923317. Fracture appartus for use with invalid beds. C. S. S. Barrows, Ipava, Ill.
923760. Diffusion apparatus. W. Bock, Prinzenthal, near Bromberg, Germany.
923625 Hernia-truss. G. Christodulo, Paris, France.
923768. Manufacture of surgical ligatures. A. W. Clark, Conshohocken, Pa.
923776. Filtrative inhaler. S. Danielewicz, San Francisco, Cal.
923781. Prescription balance or scale. W. W. Dryden, Philadelphia, Pa.
923158. Massage device. J. J. Egan, New York, N. Y.
923352. Crutch. S. T. Glasford, Danvers, Ill.
923353. Thermoplastic compound of blood or egg proteid. B. B. Goldsmith, New York, N. Y.
923525. Hospital bed elevator and rest. J. M. Hopkins, Lexington, Ky.
923656. Surgical table. J. O. Hunter, Red Sulphur Springs, W. Va.
923566. Combination vibrator and timer. W. S. Newcomet, Philadelphia, Pa.
923798. Artificial leg. H. T. Odgers, Columbus, Ohio.
923444. Air-purifier. H. A. Robinson, Chicago, Ill.
923303. Dilator. J. W. Shults, Wichita, Kans.
923729. Invalid-bed. A. C. Taylor, Richmond, Va.
924506. Appliance for relief of headache. J. M. Blashfield, Kalamazoo, Mich.
924135. Sanitary mouthpiece for drinking glasses. F. E. Blenckstone, Oradell, N. J.
924433. Combined disinfector and lamp. B. F. Corwin, Brooklyn, N. Y.
923822. Atomizer. F. C. Dorment, Detroit, Mich.
924337. Catamenial sack. F. A. Fromann, Dallas, Texas.
923967. Producing camphene. C. Glaser, Baltimore, Md.
924230. Antifraud bottle. J. A. Horne, Oregon City, Oregon.
924468. Medicine cabinet. J. W. Hunt, Lunsford, Ark.
924075. Attachment for invalid-beds. J. Johnson, Fremont. Ohio.
924359. Hair-tonic. E. Kearney, New York, N. Y.
923862. Surgical head-holder. S. M. Langworthy, Cedar Rapids, Iowa.
924083. Invalid-bed. J. Mackey, Cape Horn, Wash.
924177. Invalid lifter, swing, and wheeled chair combined. C. F. Moore, Gillett, Pa.
924367. Suspensory bandage. O. M. Morris, Spring Lake Beach, N. J.
924494. Preparing pure lactic acid. H. Noerdlinger, A. Caroselli and L. Berg, [illegible]ny.
923999. Hair tonic. A. F[illegible]
924383. Douche or bed pa[illegible] Pa.
924294. Forming sacks for suspensory bandages. J. K. Toles, Chicago, Ill.
40046. Design, Fibrous sheet material for surgical dressings. W. M. Stone, New York, N. Y.
924875. Artificial paw. H. Baehr and A. Sommerfeld, New York, N. Y.
924644. Catamenial appliance. D. S. Daudt, North Plainfield, N. J.
925121. Combination drawers and suspensory. E. A. Melze, Chicago, Ill.
925380. Mouth speculum. G. J. Reed, Peoria, Ill.
925059. Combined portable folding cot and tent. J. A. Walker, Los Angeles, Cal.
924870. Shirt suspensory. W. S. Wootton, Roanoke, Va.
926011. Nipple. T. W. Miller, Akron, Ohio.
925645. Truss. C. Molz, Kals[illegible]
925590. Producing a medicam[illegible]
925592. Splint holding frame. [illegible]
925718. Syringe nozzle. E. T. [illegible]
926075. Capsule for holding [illegible] H. V. R. Reed, London, a[illegible]gland.
925947. Remedy for eczema. [illegible]
925658. Preparation of chlo[illegible] C. L. Schleich, Berlin, Germany.
926033. Invalid-bed. T. Taylor [illegible] W. M. Stuart, Mount Oliver [illegible]
926042. Sanitary building. H. [illegible] Germany

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Address

THE HYPOPHYSIS CEREBRI

CLINICAL ASPECTS OF HYPERPITUITARISM AND OF HYPOPITUITARISM[*]

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BALTIMORE

Few chapters in the history of medicine tell a more creditable story than that which relates our progress toward a better understanding of the thyroid and parathyroid glands. A combination of clinical, experimental and surgical experiences during the past twenty years has served to unveil many of the mysteries which formerly surrounded the function of these structures, whose normal activities prove to be so essential to the maintenance of physiologic equilibrium. Myxedema, cretinisn, exophthalmic goiter, surgical myxedema (cachexia strumipriva) and tetany have come to be understandable maladies, definitely amenable to rational methods of treatment—and organotherapy, when glandular activity is subnormal, or partial surgical removal to correct functional over-activity, is a triumph of the experimental method in medicine, at the hands of Horsley, Kocher, Halsted, Gley, Vassale and Generale, MacCallum and a host of others.

Not the least memorable incident of the entire story was the recognition, first by the Italian investigators, of the important rôle played by the lesser glands—the parathyroid bodies—in occasioning the so-called acute cachexia thyreopriva with tetanoid symptoms; for without this knowledge the condition of myxedema must have remained obscure from inability to produce its experimental counterpart, and actual investigation of the parathyroids might have been long delayed.

No less satisfactory a tale is in the making as regards a hitherto even more obscure member of the family of ductless glands—the pituitary body—and it is my purpose on this occasion to recount briefly some of the steps already taken toward a better knowledge of the normal function and the part played in certain diseases by this peculiar and inaccessible structure—called "l'organe enigmatique" by Van Gehuchten. Our progress, such as it is, would have been much slower without the previous experiences with the cervical glands, for out of the confusion which long reigned in their case from lack of appreciation of the double glandular rôle a lesson has been learned and applied to the pituitary body, for it likewise combines glandular structures of widely differing function.

Not only in view of the general awakening of interest in the subject, but owing to the fact that most of the recent work on the hypophysis has appeared in foreign languages, it has seemed to me that a simple review of our knowledge of the anatomy and physiology of the gland and some discussion necessarily of a more speculative character as to the part it plays in certain diseases would make an appropriate topic for this annual oration.

THE GLANDULAR STRUCTURE

Regarded by the ancients as an organ which discharged *pituita* or mucus into the nose, and by most scientists of the past century as a mere vestigial relic of prehistoric usefulness, our first insight into a possible functional activity of this gland came from the laboratories of the modern comparative anatomists and embryologists, with many of whom it has been a favorite object of research. As a knowledge of its structure, development and morphologic significance is essential to the proper understanding of matters relating to its function, it may not be out of place to briefly recall here some few of the more important facts:

Rathke, in 1838, described an invagination of mucous membrane, supposedly arising from the anterior end of the fore-gut—since known as Rathke's pouch—and correctly attributed to this origin the epithelial portion of the pituitary body, which before this time was thought to be wholly derived from the brain. It remained for Götte and Balfour and Mihalkovics, in 1874 and 1875, to show that the invagination described by Rathke was derived from the embryonic buccal cavity rather than from the primitive gut, and hence was of ectodermic rather than of entodermic origin.

This ectodermic and epithelial pouch of Rathke, therefore, projecting from the buccal cavity and pressing against the floor of the anterior cerebral vesicle, leads to a downward fold in its wall, which becomes the early infundibulum. The stalk of the epithelial pouch becomes cut off, leaving a closed sac—the hypophyseal sac—which embraces the thickening wall or infundibular body at the tip of the vesicular fold, and the combined epithelial and nervous structure represents the anlage of the adult hypophysis. As the primitive gland develops further the epithelium of the anterior or lower part of the closed sac representing the remains of Rathke's pouch becomes thickened, forming the anterior lobe of the pituitary body. A more or less definite cleft separates this portion of the gland from the so-called posterior lobe, composed of the upper portion of the primitive closed epithelial sac together with the infundibular body to which it has become intimately adherent and with which it remains functionally associated. It is the persistence of this cleft in the mammalian hypophysis which usually permits of an easy, gross anatomic or surgical separation of the two lobes.

Thus the neural portion of the gland (the infundibular body) becomes surrounded by an intimate epithelial investment possessing a different histologic picture in the adult gland from that which characterizes the anterior lobe, though the two are of the same ectodermic origin. In accordance with the terminology proposed by Herring, this epithelial investment of the posterior lobe, together with its upward extension onto the outer walls of the infundibular stalk will be referred to as the *pars intermedia;* the infundibular body itself, as the *pars nervosa*, and the anterior, epithelial portion separated, from these by the persisting cleft, as the *pars anterior*.

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[*] The Oration on Surgery, read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[*] From an etymological point of view the terms *hyper-*, *hypo-*, *dys-*, and *a-pituitarism* are doubtless of badly mixed parentage, but there are certain obvious objections to such a combination as *hypohypophysism*, and I have therefore concluded to retain the Latin word with its Greek prefix. *Hyperpituitism*, etc., might possibly be less unwieldy.

The posterior lobe as a whole is scantily vascularized through a single stalk of vessels which enter this part of the gland at its posterior surface; the anterior lobe, on the other hand, is excessively vascular, the vessels of its outer or cortical portion in particular being sinusoidal in character. Apparently, the blood supply to this portion of the gland, from observations made by Dr. G. J. Heuer, comes, at least in the dog, through the infundibular stalk; and at all events separation of this stalk may seriously jeopardize or, according to Paulesco, effectually check the functional activity of the gland. To this I shall return when discussing the operative procedures.

Histologically, the anterior lobe is seen to be made up of cells with a peculiar staining reaction, the protoplasm of some of them being receptive to eosin, some to hematoxylin, and some barely staining at all. These are thought to represent merely periods of activity in the same type of cells—the eosinophilic cells being generally regarded as representing the functionally mature stage. These active cells seem to distribute themselves in the neighborhood of the thin-walled venous sinuses, into which they doubtless discharge their secretion. Some, indeed, have claimed that the product of cellular activity can be demonstrated under favorable conditions within the lumen of the vessels.

In the pars intermedia, investing the posterior lobe, the cells are of a different type, without eosinophilic granules, and it is here chiefly that one finds a tubular or acinous distribution of cells which have a tendency to secrete colloid resembling in appearance the secretion characteristic of the thyroid gland. These cells also seem, under certain circumstances, actually to invade the pars nervosa, into which the product of their secretion is directly discharged, whence, as Herring first pointed out, it seems to pass through tissue channels toward the infundibular cavity, to find its way ultimately between the ependymal cells into the cerebrospinal cavity of the third ventricle.

We have come fully to accept this view of Herring's, and under certain experimental conditions we have seen the masses of hyaline secretion which stream through the pars nervosa toward the cerebrospinal space enormously increased in amount. In certain animals, as the dog and monkey, the cells of the pars intermedia extend well up over the stalk of the hypophysis and around the infundibulum, and hence in removal of the whole gland it is almost inevitable that some functionally active fraction of the pars intermedia remains attached.

The pars nervosa itself contains no true nerve cells, being made up of ependymal and neuroglial tissue which is so loosely laid down that the spaces which apparently serve as the channels through which this hyaline-like secretion passes toward the third ventricle can be easily detected. Whether the pars nervosa actually has a secretion of its own, whether it serves to modify or merely to transmit the secretion from the pars intermedia, are questions which must await solution.

Anatomical studies, therefore, show us that the pituitary body, present in all vertebrates, is a composite gland with a double source of origin. It is made up (1) of a smaller posterior lobe with a nucleus of neural origin (pars nervosa), which, developing from the infundibular pouch of the thalamencephalon, becomes invested by and intimately fused with a portion of the epithelial sac (pars intermedia) that has arisen from a diverticulum of the buccal epithelium; and (2) of a larger, purely epithelial lobe (pars anterior) arising from the same source as the pars intermedia, from which it remains, however, more or less separated by a cleft—a vestige of the cavity of the original epithelial invagination from the primitive mouth.

THE GLANDULAR FUNCTION

There are a number of ways in which we may approach matters relating to the function of a gland: by laboratory methods of comparative physiology, by the experimental production of pathologic conditions, and by observing the symptomatology of clinical cases and correlating them either with postmortem findings or with the conditions disclosed or brought about by surgical procedures.

Physiologists are accustomed to attack these problems in two ways, by observing, on the one hand, the symptoms brought about by hypersecretion, and, on the other, those consequent on a lessened or hyposecretion. The first—the consequences of over-secretion—must, unfortunately, rest largely with observations on the effects of ingestion or of subcutaneous or intravenous administration of the material extracted from the glands of other animals; for until some hormone can be isolated there seems to be no way by which the pituitary body, or any other ductless gland, may be so over-activated as to give a permanent and pathologic excess of secretion. Transplantations of additional glands from other animals have signally failed in this respect.

Limited, however, as the injection methods are, they have nevertheless taught us certain important facts: first, that the hypophysis of all animals contains a blood-pressure-raising principle, confined, as Howell has proven, to the posterior lobe and restricted, as we believe, to the pars nervosa of this lobe; and second, that an extract or emulsion of this same lobe has a marked diuretic effect on the kidneys (Schäfer)—whether from direct action on the renal epithelium or from the rise in blood pressure and increased volume of the organ seems undecided. The blood-pressure-raising substance, though occasioning a more enduring rise in pressure than that produced by the more familiar extract of the adrenal glands, seems nevertheless to be akin to adrenalin, one striking resemblance being the pupillary dilatation which follows the instillation of either of these substances into the eye.

My associate, Dr. S. J. Crowe, has corroborated the findings of others that successive injections of posterior lobe extract not only soon fail to cause a rise in blood pressure, but may produce an actual fall, or indeed on several repetitions may even be fatal. It has been shown that extract of the gland when boiled still retains undiminished its evidences of physiologic activity (shown by the blood pressure reaction), so that it is possible to introduce sterile extract. Certain of Crowe's observations have given evidence that repeated daily injections are exceedingly deleterious to the well-being of the animal and lead frequently to extreme tissue alterations, particularly in the liver, a disturbance which apparently is due to posterior lobe secretion rather than of anterior.

Beyond these few properties possessed by an extract of the posterior lobe, the methods of injection have taught us little or nothing indeed regarding the function of the anterior lobe, which histologically would seem to be by far the more important part of the gland. Sandri has observed some apparent thickening of the bones and atheromatous patches in the arteries following intraperitoneal injections in young animals but we have failed as yet to produce any constant disturbances except a definite loss of weight by repeated (over weeks) injections of extracts of pars anterior alone, using the boiled extract or the emulsion of fresh and aseptically removed glands.

activity of the anterior lobe—commences in youth, gigantism occurs; when in adult life, acromegaly; when commencing in youth and continuing into adult life, a combination of the two is seen. The important fact is that an enlargement of the pituitary body is found in a large majority of cases of both acromegaly and gigantism, and it is a natural conclusion that they are merely different expressions of one and the same morbid condition.

What now are the clinical manifestations, if any, of diminished activity of the gland? There occurs a remarkable physical state characterized by sexual infantilism and adiposity—*dystrophia adiposo-genitalis*—a syndrome to which a paper by Fröhlich[5] first attracted general attention in Vienna, where most of these cases have subsequently been observed. The condition is probably far from an infrequent one, though it has received but tardy recognition in English and American writings.

These patients, in addition to the local pressure symptoms of a growth in the hypophyseal neighborhood show small stature, infantile genitalia, hypotrichosis and an excessive deposition of fat. The title of Fröhlich's paper—and there have been many other articles similarly entitled as "cases of hypophyseal tumor without acromegaly"—indicates a widespread misconception as to the cause not only of these symptoms, but of those described by Marie as well. It is equivalent to describing the goiter which may accompany cretinism or myxedema as "cases of tumor of the thyroid without exophthalmic goiter." This confusion clears away on better knowledge of the effects of hyposecretion, for it is my opinion that in these cases the pressure from the tumor has led to a considerable lessening of the normal glandular activity. In this light, they become equivalent to the canine partial hypophysectomies after which, as I have described, an excessive deposition of fat may occur (with the accretion in some cases of over one-third the former weight within a few weeks after the operation), accompanied at times by a definite atrophy of the genitalia.

One must acknowledge that not only the anterior, but the posterior lobe also, is in all probability affected by such a pressure disturbance from a neighboring tumor, so that the whole picture perhaps can not be ascribed to diminished activity of the anterior lobe alone. It is safe to say, however, that the small stature and the adiposity can be thus accounted for, and further investigations will doubtless reveal the cause for the sexual infantilism. This, indeed, may only be indirectly due to pituitary body alteration, the lessened secretion from which has failed in some way to activate the testicular or ovarian secretions.

It is important to note that among the earliest successful operations on the hypophysis have been those performed by v. Eiselsberg on patients exhibiting the symptoms described by Fröhlich, either with the removal of solid tumors or the evacuation of cystic growths. Striking improvement in the condition, shown by a lessening of fat and rapid appearance of sexual adolescence, has followed these operations, but I am unaware that this was ascribed to reawakening of functional activity in the previously compressed hypophysis, nor that especial care was taken to avoid its removal with the tumor.

It is noteworthy that a frequent early symptom of acromegaly or of gigantism associated with tumor is amenorrhea in women and impotence in men—though this need not apply to those adult cases which show a simple hypertrophy of the anterior lobe without tumor formation—and it is quite probable that here we see an overlap in the symptoms occasioned by hypersecretion of one part of the gland and diminished secretion of another. It must be kept in mind also that in the condition of "adiposo-genital degeneration" described by Fröhlich, which in the light of our experimental observations we consider to be due to hyposecretion, the malady begins to show itself before adolescence, and it is quite probable that the clinical picture, when the disease originates later in life, has a somewhat different aspect, just as gigantism differs from acromegaly. As an analogous condition in the case of the thyroid I may mention cretinism as the result of thyroid deficiency dating from childhood, and myxedema as the result of a similar deficit occurring in adult life.

One somewhat characteristic symptom of hyposecretion of the anterior lobe, not only after partial experimental ablations, but also evident in clinical conditions is polyuria, sometimes associated with glycosuria. This symptom, in our animals, we might possibly have attributed to a temporary activation of the retained posterior lobe, the secretion of which, as Schäfer has shown, possesses diuretic properties when injected, had it not been for the fact that it occurs in animals with a partial anterior and total posterior lobe removal. In some of our dogs in which there had been an increase of fat, these urinary symptoms persisted over months.

Clinical instances of hyposecretion are doubtless far from uncommon and probably many will recall illustrative cases in their own experience. I have heretofore recorded a typical case of the infantile type associated with a congenital teratoma of the hypophyseal region, and the following may serve as an instance of the adult condition—the patient having been under Dr. Heuer's and my observation this past winter:

A single woman, aged 36, had suffered from severe bitemporal headache for seven months, during which time there was a gain of 69 pounds (from 118 to 187 pounds) in weight. Polyuria was constant and sugar had been present in the urine from time to time. The hair had become thin and scanty. Evidences of the local lesion were shown by a primary optic atrophy unassociated with a choked disc, and by a homonomous hemianopsia. Amenorrhea had been present from the onset. The *x*-ray showed no enlargement of the sella turcica, and a lateral intracranial exploration (subtemporal) was performed, in the hope of exposing the growth so as to determine how it could best be attacked. It was not possible to dislocate the tense temporal lobe sufficiently to disclose the lesion. A transphenoidal operation was refused. The patient's condition remains unaltered.

Another history of considerable interest is:

The patient, a man aged 40, exhibited characteristic symptoms of intracranial pressure, thought to be due to tumor or to the edema of arteriosclerosis. A subtemporal decompression was performed, with complete relief for a year, during which time he became very fat. Subsequently, polyuria occurred with intermittent traces of sugar in the urine; he became somnolent, with a persistent subnormal temperature and slow pulse, and finally succumbed. A primary tubercle of the hypophysis (pars anterior) was found postmortem, in addition to a marked degree of cerebral arteriosclerosis.

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[5] Fröhlich's paper (Ein Fall von Tumor der Hypophysis Cerebri ohne Akromegalie. Wiener klin. Rundsch., 1901, 47, u. 48), describing two of these cases, preceded by several years an article of my own (Sexual Infantilism with Optic Atrophy in Cases of Tumor Affecting the Hypophysis Cerebri. Jour. Nerv. and Ment. Dis., November, 1906) in which two further cases were described, though insufficient emphasis was laid on the peculiar adiposity which was present in each. Both of these reports were made before a safe method of operative approach to the gland has been evolved.

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thyroid, parathyroid, adrenal, testicle, ovaries, islands of Langerhans, and thymus. Changes in the hypophysis consequent on thyroidectomy or castration have long been known, and after an hypophysectomy we have found the reverse to be true—the simplest example being an acute hypertrophy of the thyroid.

This interrelation of the ductless glands makes the problem the more interesting and at the same time increasingly difficult. Does the adiposity following partial hypophysectomy hold any possible relation to the secondary lesions in the ovaries or testes, or the glycosuria to alterations in the islands of Langerhans or thyroid? Answers to these and other similar questions must await further investigation. Then, too, it must be borne in mind that the various ductless glands not only give evidence of adaptation to a pathologic process affecting one or another member of their family, but respond to an unusual physiologic process likewise, as is illustrated by the recognizable functional alterations in the thyroid and hypophysis which accompany pregnancy.

Thus, it would appear, from these various investigations on the physiology of the hypophysis that the extract of the physiologically active posterior lobe, supposedly the *most important part of the gland, may be* actually harmful when injected, and yet after this portion of the gland has been removed there is no apparent disturbance with the physiologic balance of the body. On the other hand, the supposedly inactive anterior lobe can not be removed in its entirety (leading to a condition of apituitarism) and life be long maintained. This portion of the gland, furthermore, seems *primarily to be associated with the growth of the body*, with the metabolism of fat, with sexual activities, and to be bound up in ways which as yet are symptomatically obscure with the function probably of all the other ductless glands of the body.

CLINICAL SYMPTOMATOLOGY

Let us pass from these scant observations on the anatomy and physiology of the gland to see in how far they may be applied not only to the few maladies which are under the suspicion of being primarily hypophyseal diseases, but also to other conditions which may show secondary symptoms possibly of hypophyseal origin. Among the primary diseases acromegaly and gigantism naturally deserve the first mention.

Since Pierre Marie, in 1886, gave the name acromegaly to the peculiar and unmistakable malady characterized by striking deformities due to skeletal overgrowth, and in 1889 called attention to the fact that an hypophyseal enlargement (adenoma or hyperplasia) was a frequent accompaniment of the condition, there has been an active dispute in regard to the part, if any, which the gland actually plays in the disease. Many cases of acromegaly have been recorded in which, in agreement with Marie, glandular enlargements or tumors of the pituitary body, with the characteristic deformation of the sella turcica, have been demonstrated after death.[3] On the other hand, there have been a still larger number of carefully studied cases in which a tumor of the hypophysis or of its neighborhood has been unaccompanied by these symptoms. Finally, a few cases of undoubted acromegaly have been described in which the hypophysis on postmortem examination is said to have been normal in every respect.

Now these apparently conflicting observations are possibly not difficult of explanation in the light of our somewhat more definite knowledge as to whether the *underlying condition is one of glandular hypersecretion* or hyposecretion—*a far more important matter than the* mere association, or otherwise, with a tumor. In glands affected by an adenomatous growth, as well as in those the subject of simple hyperplasia, it is a natural conjecture that there may be some excess of glandular secretion. However, in view of the many instances of hypophyseal tumor occurring without acromegaly, Massalongo's supposition that the disease represents a condition of hyperfunction—hyperpituitarism—has been widely discredited. It is believed by Benda and others that an excess of large cells in the eosinophilic stage indicates an overactive gland, but as this supposition has not been widely accepted it is easily understood how a pathologic overactivity in glands not macroscopically enlarged may have escaped recognition, so that the supposed finding of actually normal glands in association with acromegaly must be open to grave doubt.[4]

It has remained for surgical measures to cast the deciding vote in favor of the hypersecretion theory, for there have been two fairly conclusive cases. One of them was a case of Hochenegg's in which a successful effort was made to remove the gland completely, and the other an unpublished case of my own, in which, purposely, a partial hypophysectomy only of the anterior lobe was performed. In the latter case the tissues resemble histologically what we regard as a simple hypertrophy, and the patient has been not only completely relieved of the pressure symptoms, but there has been an actual measurable postoperative reduction in the size of the hands. In Hochenegg's patient there was a measurable diminution of the bony overgrowth, shown first by a narrowing of the spaces between the teeth. Even a tendency toward subsidence of the disease after a partial hypophysectomy—equivalent to the partial thyroidectomy for exophthalmic goiter—would seem to speak conclusively in favor of the hyperpituitarism theory.

That tumors of the gland or of its vicinity may be found unaccompanied by symptoms of acromegaly is precisely what would be expected. Indeed, if there is a resultant interference with the normal secretory activity of the gland one would expect the reverse condition, but this will be considered more appropriately under the heading of hyposecretion.

The relation of gigantism to acromegaly and of both of these to a possible lesion of the hypophysis has been much discussed, and the generalization of Massalongo, that acromegaly is nothing but delayed or abnormal gigantism, has been endorsed by Meige, Woods Hutchinson and Bassoe, who have made the most thorough studies of the question. Thus in Meige's formula, when hypophyseal disease—an evidence as we believe of over-activity of the anterior lobe—commences in youth, gigantism occurs; when in adult life, acromegaly; when commencing in youth and continuing into adult life, a combination of the two is seen. The important fact is that an enlargement of the pituitary body is found in a large majority of cases of both acromegaly and gigantism, and it is a natural conclusion that they are merely different expressions of one and the same morbid condition.

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[3] Marie and Marinesco (Sur l'anatomie pathologique de l'acromégalie. Arch. de méd. expér. et d'anat. path., 1891, p. 539) considered acromegaly as a dystrophy analogous to myxedema due to a diminution or an abolition of the functions of the hypophysis. Vessale and others go so far as to regard the hypophyseal hyperplasia, acknowledged to be present in a large percentage of acromegalics, not as the primary process but as one secondary to the general nutritional disorder.

[4] The matter has been fully discussed in an able study by Dean Lewis (Hyperplasia of the Chromophile Cells of the Hypophysis as the Cause of Acromegaly. Johns Hopkins Hosp. Bull., 1905, xvi, p. 157) of a case of acromegaly with an hypophysis which appeared normal in its gross appearance but showed, in confirmation of Benda's view a definite hyperplasia of the chromophile cells.

What now are the clinical manifestations, if any, of diminished activity of the gland? There occurs a remarkable physical state characterized by sexual infantilism and adiposity—*dystrophia adiposo-genitalis*—a syndrome to which a paper by Fröhlich[5] first attracted general attention in Vienna, where most of these cases have subsequently been observed. The condition is probably far from an infrequent one, though it has received but tardy recognition in English and American writings.

These patients, in addition to the local pressure symptoms of a growth in the hypophyseal neighborhood show small stature, infantile genitalia, hypotrichosis and an excessive deposition of fat. The title of Fröhlich's paper—and there have been many other articles similarly entitled as "cases of hypophyseal tumor without acromegaly"—indicates a widespread misconception as to the cause not only of these symptoms, but of those described by Marie as well. It is equivalent to describing the goiter which may accompany cretinism or myxedema as "cases of tumor of the thyroid without exophthalmic goiter." This confusion clears away on better knowledge of the effects of hyposecretion, for it is my opinion that in these cases the pressure from the tumor has led to a considerable lessening of the normal glandular activity. In this light, they become equivalent to the canine partial hypophysectomies after which, as I have described, an excessive deposition of fat may occur (with the accretion in some cases of over one-third the former weight within a few weeks after the operation), accompanied at times by a definite atrophy of the genitalia.

One must acknowledge that not only the anterior, but the posterior lobe also, is in all probability affected by such a pressure disturbance from a neighboring tumor, so that the whole picture perhaps can not be ascribed to diminished activity of the anterior lobe alone. It is safe to say, however, that the small stature and the adiposity can be thus accounted for, and further investigations will doubtless reveal the cause for the sexual infantilism. This, indeed, may only be indirectly due to pituitary body alteration, the lessened secretion from which has failed in some way to activate the testicular or ovarian secretions.

It is important to note that among the earliest successful operations on the hypophysis have been those performed by v. Eiselsberg on patients exhibiting the symptoms described by Fröhlich, either with the removal of solid tumors or the evacuation of cystic growths. Striking improvement in the condition, shown by a lessening of fat and rapid appearance of sexual adolescence, has followed these operations, but I am unaware that this was ascribed to reawakening of functional activity in the previously compressed hypophysis, nor that especial care was taken to avoid its removal with the tumor.

It is noteworthy that a frequent early symptom of acromegaly or of gigantism associated with tumor is amenorrhea in women and impotence in men—though this need not apply to those adult cases which show a simple hypertrophy of the anterior lobe without tumor formation—and it is quite probable that here we see an overlap in the symptoms occasioned by hypersecretion of one part of the gland and diminished secretion of another. It must be kept in mind also that in the condition of "adiposo-genital degeneration" described by Fröhlich, which in the light of our experimental observations we consider to be due to hyposecretion, the malady begins to show itself before adolescence, and it is quite probable that the clinical picture, when the disease originates later in life, has a somewhat different aspect, just as gigantism differs from acromegaly. As an analogous condition in the case of the thyroid I may mention cretinism as the result of thyroid deficiency dating from childhood, and myxedema as the result of a similar deficit occurring in adult life.

One somewhat characteristic symptom of hyposecretion of the anterior lobe, not only after partial experimental ablations, but also evident in clinical conditions is polyuria, sometimes associated with glycosuria. This symptom, in our animals, we might possibly have attributed to a temporary activation of the retained posterior lobe, the secretion of which, as Schäfer has shown, possesses diuretic properties when injected, had it not been for the fact that it occurs in animals with a partial anterior and total posterior lobe removal. In some of our dogs in which there had been an increase of fat. these urinary symptoms persisted over months.

Clinical instances of hyposecretion are doubtless far from uncommon and probably many will recall illustrative cases in their own experience. I have heretofore recorded a typical case of the infantile type associated with a congenital teratoma of the hypophyseal region, and the following may serve as an instance of the adult condition—the patient having been under Dr. Heuer's and my observation this past winter:

A single woman, aged 36, had suffered from severe bitemporal headache for seven months, during which time there was a gain of 69 pounds (from 118 to 187 pounds) in weight. Polyuria was constant and sugar had been present in the urine from time to time. The hair had become thin and scanty. Evidences of the local lesion were shown by a primary optic atrophy unassociated with a choked disc, and by a homonomous hemianopsia. Amenorrhea had been present from the onset. The *x*-ray showed no enlargement of the sella turcica, and a lateral intracranial exploration (subtemporal) was performed, in the hope of exposing the growth so as to determine how it could best be attacked. It was not possible to dislocate the tense temporal lobe sufficiently to disclose the lesion. A transphenoidal operation was refused. The patient's condition remains unaltered.

Another history of considerable interest is:

The patient, a man aged 40, exhibited characteristic symptoms of intracranial pressure, thought to be due to tumor or to the edema of arteriosclerosis. A subtemporal decompression was performed, with complete relief for a year, during which time he became very fat. Subsequently, polyuria occurred with intermittent traces of sugar in the urine; he became somnolent, with a persistent subnormal temperature and slow pulse, and finally succumbed. A primary tubercle of the hypophysis (pars anterior) was found postmortem, in addition to a marked degree of cerebral arteriosclerosis.

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Whether the adiposis dolorosa of Dercum is akin to hypophyseal adiposis is not assured, though there are many features of the condition which lend support to such a conjecture. G. E. Price, in a recent article, describes the changes in the gland, but they are possibly no more marked than in the average adult gland; and from a histologic standpoint we are still groping for the characteristic cellular picture of lessened hypophyseal activity. Gross lesions of the pituitary body (tumors, etc.) have been found in at least four of the few reported cases that have come to autopsy; and there have been certain features of their symptomatology also which suggest a close relationship.

Symptoms of hypophyseal origin doubtless occur in association with many diseases in which they are overlooked, for we have found, in the examination of over a hundred glands taken at random from autopsy material, that histologic alterations are very common. It is not always possible to interpret the effect of these lesions, particularly since, on the clinical side, we are far from being on the alert for them. Certain hypophyseal symptoms, nevertheless, even in the state of our present knowledge, are capable of interpretation. This is particularly true of the glandular lesions which occur secondary to injuries and to intracranial tumors which are provocative of hydrocephalus.

In most of the cases of brain tumor which we have examined, Dr. G. J. Heuer and I have found characteristic gross alterations of the gland, which is often cup-shaped, flattened or otherwise deformed. This is particularly true of the cases in which there has been an associated internal hydrocephalus, in which one sees evidences of the damming back of the hyaline secretion of the posterior lobe, which often accumulates as a large hyaline cyst. This is what would be expected from Herring's observation. It is not inconceivable, therefore, that many of these patients would actually show symptoms of altered hypophyseal function were our attention more definitely centered on the activities of this gland. These symptoms would be more likely to fall in the group due to hyposecretion than that of hypersecretion, and may account for the occasional marked increase in weight, the amenorrhea and somnolence not infrequently seen in company with cerebral neoplasms.

These may be considered as secondary hypophyseal symptoms in contradistinction to the primary manifestations which occur when the gland is directly implicated by a growth in its immediate neighborhood—a state of things betrayed by the well-known local symptoms.

I have here endeavored to postulate in simple form some clinical conditions which we may safely regard as evidences of hypersecretion of the anterior lobe, as shown by overgrowth, and others which may equally well be taken as evidences of hyposecretion, shown by undergrowth or infantilism accompanied by a tendency toward an excessive deposition of fat. As we have seen, it is possible to simulate the latter condition by experimental methods. A condition corresponding to the clinical state due to hypersecretion still remains to be reproduced in the laboratory.

This simple subdivision must be taken merely as the suggestion for a working basis. It may in time prove to be wrong, and it signally fails to take into consideration not only the possible lesions of the other portions of the pituitary body (pars intermedia and pars nervosa), but also of the other correlated ductless glands. This fact, however, holds equally true for the condition of the other ductless glands in the analogous diseases of the thyroid—the hyperthyroidism of Graves' disease and the hypothyroidism of myxedema. Still, it gives us a certain hold on the maladies of the pituitary body which heretofore we seem not to have possessed.

There is every reason to suppose that functional irregularities of the hypophysis are at least as common as those of the thyroid gland, though heretofore only when a local neoplasm has clearly pointed the way to the hypophyseal region have the symptoms due to these irregularities been given the attention they deserve.

THERAPY

If such a subdivision of these conditions as our experimental observations have tempted us to make shall prove to be practicable, with a grouping of clinical cases into those suffering from excessive secretion (hyperpituitarism), *versus* those with diminished secretion (hypopituitarism), can we safely draw any conclusions therefrom which will hold out some promise of their future rational treatment?

It is far from utopian to look forward to the day when organotherapy, or, better, the administration of the isolated active principle of one or another part of the gland, will accomplish, at least for conditions of hyposecretion, what thyroid extract does for cretinism or myxedema. We can even now with reasonable certainty anticipate the results of anterior lobe administration for the adiposity associated with the conditions of hypopituitarism, and it is not improbable that many of the cases of adiposity of diverse origin which have been benefited in the past by thyroid administration have been so benefited in consequence of the indirect reawakening of activity in the hypophysis (and possibly with a secondary activation of the generative organs) resultant to this treatment.

Possibly less can be expected in the near future from glandular therapy for the conditions of hyperactivity, though it is conceivable that physiologic chemists may succeed in elaborating substances which will counteract the excessive secretion of any one of the ductless glands which may be under investigation.

At present, as is the case with hyperthyroidism, the cruder measures of surgery must be resorted to—namely, the partial removal of the hypertrophied or overactive gland. This, as I have stated, has been carried out with promising results in certain cases of acromegaly—a disease supposedly representing the effects of overaction of the gland in adult life. Our experimental observations, largely confirmatory of those of Paulesco, have shown that the procedure must be limited solely to a *partial* removal of the anterior lobe with careful avoidance of *total* removal, which leads to a condition of cachexia hypophyseopriva as definitely as does a complete thyroidectomy to one of cachexia strumipriva. In view of the experimental results, one would naturally apprehend serious consequences in man, as well as in animals, if the whole anterior lobe, or indeed of its major portion, be removed, though proper glandular administration of extract of this lobe would doubtless do for such a condition what thyroid extract does for the hypothyroidism following too extensive a removal of the thyroid.

Glandular therapy, as I have said, would be the natural therapeutic resource in the conditions which we have described as due in all probability to a diminished hypophyseal activity; but as yet no clinical cases of this sort have been recorded as consequent on a simple primary incompetence from atrophy of the gland, though such a condition doubtless occurs. As a matter of fact, they have only been described as an accompaniment of tumors in its neighborhood with secondary implication of the hypophysis through compression. Hence in many of these conditions of hypopituitarism, as well as in those of hyperpituitarism, there are definite indications for surgical intervention, and fortunately in many of the cases, especially those with delayed adolescence of the Fröhlich type, the damaging growth is a benign one, favorable for operation.

We must realize, too, that there may be a double reason for operating, in view of this frequent association of a local neoplasm with both of the conditions which we are considering. I have purposely refrained from making particular mention of the well-recognized local symptomatology of these growths in the infundibular region, for it is their effect on the hypophysis that I wish to emphasize, unobscured by other symptoms. Headache, of course, is often extreme in these cases—a form of cephalalgia produced by distention of the dural pocket enclosing the gland and consequently not relieved by the usual decompressive measures, as I have found to my discomfiture. Amblyopia from an optic atrophy which usually is primary—not secondary to a choked disc—is a still more serious and equally frequent manifestation of the local lesion. It appears in its most characteristic form as a bitemporal hemianopsia, though this is far from the most common type of partial blindness, inasmuch as one nerve is apt to be more seriously implicated than the other. Enlargement of the sella turcica is another valuable sign, one which need be expected, however, only in those cases in which the growth originates in or invades the glandular dural pocket. There are a number of additional signs of less moment.

Though these manifestations of a local tumor, whether primarily originating in the gland or secondarily involving it from pressure, have possibly been absent more often with hyperpituitarism (acromegaly) than with the reverse condition, we must remember that they may be common to both of them. These local tension symptoms may be completely relieved, as we have found to be the case with our acromegalic patient, by the simple incision of the dural pocket encasing the enlarged gland.

These things, of course, are quite apart from the treatment of the hypophyseal symptoms themselves, in regard to which the matter must likewise remain at present largely a surgical problem. This resolves itself, on the one hand, into partial removal of the hypertrophied gland or the glandular tumor when there are clinical manifestations of over-activity (acromegaly and gigantism); on the other hand, when there are evidences of under-activity (adiposity, either with infantilism or sexual degeneracy) into removal, if possible, of the tumor causing the compression, with supplementary organotherapy (anterior lobe administration) should the gland prove to have been injured by the operation or for other reason fail to resume its normal activity.

As has been the case with operations on the thyroid, we may expect a rapid perfection of the surgical methods of approach even to this far more inaccessible structure—the pituitary body; and depending on whether the growth largely occupies a distended sella turcica or lies above it in the interpeduncular region, the transphenoidal route, successfully followed in our case of acromegaly, or an intracranial route comparable to that employed by Horsley and used in our animal experiments, will prove to be the preferable one to follow.

SUMMARY

Two conditions, one due to a pathologically increased activity of the pars anterior of the hypophysis (hyperpituitarism), the other to a diminished activity of the same epithelial structure (hypopituitarism), seem capable of clinical differentiation.

The former expresses itself chiefly as a process of overgrowth—gigantism, when originating in youth, acromegaly when originating in adult life. The latter expresses itself chiefly as an excessive, often a rapid, deposition of fat with persistence of infantile sexual characteristics when the process dates from youth, and a tendency toward a loss of the acquired signs of adolescence when it first appears in adult life.

Experimental observations show not only that the anterior lobe of the hypophysis is a structure of such importance that a condition of apituitarism is incompatible with the long maintenance of life, but also that its partial removal leads to symptoms comparable to those which we regard as characteristic of lessened secretion (hypopituitarism) in man.

A tumor of the gland itself, or one arising in its neighborhood and implicating the gland by pressure, is naturally the lesion to which one or the other of these conditions has heretofore been attributed, though it is probable that over-secretion from simple hypertrophy, or under-secretion from atrophy, will be found to occur irrespective of tumor growth when examination of the pituitary body becomes a routine measure in the postmortem examination of all cases in which the conditions suggest one or the other of the symptoms-complex described.

When due to tumor, surgery is the treatment that these conditions demand, and at present there are reasonably satisfactory ways of approaching the gland; but clinicians and surgeons must clearly distinguish between the local manifestations of the neoplasm due to involvement of structures in its neighborhood other than hypophysis, and those of a general character from disturbances of metabolism due to alterations of the hypophysis itself.

3 West Franklin Street.

Penetrating Injury of the Brain.—W. A. Gills, in the *Virginia Medical Semi-Monthly*, May 7, 1909, reports the case of a man, aged 30, who shot himself with a 32-caliber revolver, the ball entering the right side of the head two inches behind the upper temporal ridge and one inch above the zygoma, traversing the frontal region, passing entirely through the bone of the opposite side (but not through the skin) at a point midway between the frontal eminence and the superciliary ridge, an inch to the outer side, a skin incision being necessary to remove it. About one hour after the shooting the patient was almost pulseless, with breathing very shallow, but conscious—recognizing voices. His eyes were so badly swollen that one was unable to recognize him; and because of the swelling, it could not be determined if there were any ocular changes present. Gills noted the presence of brain substance on the cheek. An incision of about an inch and a half was made through the skin and the ball removed without any trouble. Treatment was tentative and conservative. On removal of the dressing it was found that each wound extended to the brain. Drainage was put in each, an ice cap applied to the head, a mercurial purge given and the patient placed in a dark room under the care of a competent nurse. The head of the bed was elevated; a saline solution four ounces every fourth hour per rectum, ordered; the eyes cleansed with boric acid solution; the ears and nose irrigated with saline solution, and morphin given to induce sleep. No probing was done. The patient made a complete recovery except for slight impairment of the sense of smell.

Original Articles

OPTIC ATROPHY IN TABES

A DIAGNOSTIC SYMPTOM IN THE DIFFERENTIAL DIAGNOSIS FROM GENERAL PARESIS [*]

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Any point which can be discussed and which may in any way make the diagnosis of general paresis more positive, especially in its early stages, seems to me of value.

The earlier definition of general paralysis, its symptomatology and duration, would hardly apply to many of the cases which are included under the head of general paralysis to-day.

It has seemed to me that such cases which continue for five or even ten years must belong to another pathologic state that the type which pursues a course of three years with fulminant active symptoms ending in complete dementia, and often spinal symptoms involving both the lateral and posterior columns of the spinal cord.

The pathologic returns also in these former cases, i. e., those of long protraction, are not, to my mind, distinctive of general paralysis, but may also be found in other diseases marked by arterial degeneration as seen in chronic alcoholism, especially if associated with syphilis.

Many other points of differential diagnosis may also be suggested by the question as to whether tabes dorsalis and general paresis are one and the same disease.

Ferrier and others assert that the only difference is the part of the nervous system involved, the disease process being the same. I believe, however, that the conditions are distinctly different, no typical case of tabes ever passing into general paralysis.

This statement may appear extreme, but I think careful consideration will lead most of us, if we look back over our histories of the typical cases of tabes—the so-called classical symptom-complex cases—to conclude that they have never shown mental symptoms, while those which were perhaps diagnosed as tabes and have later developed undoubted evidence of general paralysis have been somewhat irregular in their spinal manifestations, probably ataxic paraplegia being present.

I believe that it can be positively asserted that in the cases of general paralysis which have apparently given the history of a preceding tabes—the so-called tabic general paralysis—the pathologic returns will show spinal cord changes more diffused than those found in typical cases of tabes. We find both the lateral and posterior columns affected in general paralysis, especially the former, while in tabes the lesion is more strictly limited to the posterior spinal ganglion, the posterior and Clarke's columns.

I have alluded in a paper read before the American Neurologic Association, at its last meeting in New York, to the comparative infrequency of pain in general paralysis and to the difference in type from that in tabes, if present—i. e., the absence of the lightning-like pains, the girdle-like or band-like pains, and especially the visceral crises—as a differential diagnostic point from tabes.

The non-tabic type of general paralysis, i. e., the classical *form running its course in three years*, is, in my experience, but slightly affected by these pains. I do not forget, in saying this, that there is great variation in the pain symptom in the typical cases of tabes.

Again, the involvement of the cranial nerves is not as frequent in general paralysis as in tabes—and this leads me to the special consideration of the subject referred to in the title of this paper.

In looking over my cases in private practice and those in my hospital experience, I find a very small proportion with optic atrophy unless associated with a previous history of irregular or non-typical tabes.

The statistics of optic atrophy give such varied reports from different writers as to the percentage both in tabes and in general paralysis as to be almost contradictory; they are, therefore, of little value.[1] This is evidently due to the fact that the cases coming before these individual observers have been only of a certain type. For instance, general paralysis, if seen in the early stages as found in a general hospital service, might show very few cases of optic atrophy; if, however, the cases are taken from the records of a hospital for chronic nervous diseases the percentage will be higher.

There is, again, very great difference of opinion as to the stage of the disease when optic atrophy appears in tabes. Some classify it as a very early symptom; others as a later appearance.

Again, some assert that in tabes its presence signifies a different type of tabes with either a cessation of progress of the spinal symptoms or as occurring in cases in which the spinal symptoms are never as prominent.

This, again, is denied by equally responsible observers. (Ferrier.) My personal opinion is that it has little or no bearing on the character or progress of the disease in tabes.

I have written to several of the physicians in the New York State asylums for the insane in regard to the frequency of optic atrophy in general paresis. Their reports in part support my views.

Dr. Louis C. Pettit, of the Manhattan State Hospital, Wards Island, states that in 1,000 males with general paralysis, complete atrophy existed in 28 cases, and incipient atrophy in 12 cases. In 200 females it was present in only 4 cases.

Dr. Robert M. Elliott, superintendent of the Willard State Hospital, says that in his nineteen years' experience he can recall only three cases of optic atrophy in general paralysis.

Dr. G. A. Smith, of Central Islip Hospital, states that it is comparatively rare, citing the pathologist of the hospital, Dr. J. W. Moore, as follows: In 100 males there were only two cases, and one of these patients had had tabes for some years before the onset of the general paralysis.

Dr. W. A. Macy, of King's Park Hospital, makes a like statement in regard to the infrequency of optic atrophy in general paralysis.

Dr. W. A. Holden reports in seventy carefully selected typical cases of general paralysis no instance of optic atrophy.

It is not my intention to quote other authorities. This paper is a clinical one and my object is to excite discussion and lead all observers in hospital and private practice to look into a subject which certainly up to the present time has not been very carefully studied.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Posey and Spiller (Dercum): The Eye and Nervous System, pp. 479 et al.

This is, indeed, a preliminary report, which I shall make more complete in the future.

Under the head of general paralysis I feel convinced that too many diseases have been included, and within the next ten years we shall have differentiated and classified these various forms into several distinct diseases.

19 West Fifty-second Street.

ABSTRACT OF DISCUSSION

Dr. Charles K. Mills, Philadelphia: Dr. Fisher's statistics show the occurrence of optic atrophy in a considerable percentage of his cases of general paresis—about 40 in 800 or 1,000, and certain other low percentages. The occurrence of optic atrophy in tabes dorsalis is perhaps not more than 4 or 5 per cent. I have seen cases of optic atrophy in general paresis; they are reported by good observers and the other ocular phenomena of tabes have been of course extensively reported as occurring in paresis. Bevan Lewis, if I recall aright, has very elaborate records of all sorts of ophthalmic and ocular affections occurring in general paresis analogous to or identical with those occurring in tabes. I still feel like holding to the view that fundamentally general paresis and tabes are the same disease, and in saying this one needs not to say that tabes in regular form shall occur before the appearance of the paresis, or the reverse.

Dr. C. B. Burr, Flint, Michigan: I have in my care a patient with paretic dementia with complete blindness for two years. The disease has run the ordinary course, extravagant delusions, motor symptoms, etc. Owing to focal symptoms present before the patient came under my care, suspicions of tumor or local lesion in the motor tract arose; but an operation brought to light nothing at all; and the case has been regarded since as a properly diagnosticated one of paretic dementia.

Dr. George A. Moleen, Denver: I saw a number of cases of optic atrophy sent to the hospital and I asked Dr. Jackson if he could regard them as primary optic atrophy; he said they were often followed by symptoms of paresis even after a period as long as twenty years. One of these cases I was able to follow for some time. The patient showed nothing when sent down but the atrophy of the tabetic type. Four or five months later he had a typical epileptiform attack followed by an attack of mental disorder in which he had to be restrained; and a year following he had a typical apoplectiform attack and is now confined, probably permanently. I came to the conclusion that a good many of those patients with so-called primary optic atrophy ought to be watched rather carefully to see if this atrophy was not the first indication of a paresis.

Dr. E. D. Fisher, New York: What has been stated by Dr. Mills is the generally accepted view. I have purposely put this in an extreme way. There are so many contradictory statements by different writers in regard to the condition of the eyes, as to the percentage of optic atrophy in tabes and general paralysis, that the subject is well worthy of reconsideration. In my private practice and in talking with others I find their experience coincides with mine, that ocular symptoms are comparatively rare in general paresis as compared with those which we find in tabes. Dr. Nonne states that the serodiagnosis gives quite a different report in tabes from that found in general paresis. Possibly that furnishes an additional proof that the two diseases are not one and the same.

Philadelphia's Public Playgrounds.—Philadelphia has an excellent system of public playgrounds, which is put into execution during the summer months. The schoolyards of the city are thrown open to the youngsters of the neighborhoods, swings, slides, games and all sorts of entertainment are provided for the little ones, and there are teachers and caretakers on hand to see that the fun proceeds along proper lines. There is even some slight attempt made at instruction, though nothing onerous is imposed on the little brains. The teacher reads stories that divert and instruct at the same time. The system has been found to be of such benefit that it will be extended along large lines.—*Hygiene and Physical Education.*

EPIBULBAR LEUCOSARCOMA

EXENTERATION OF ORBIT. NO RECURRENCE AT ORIGINAL SITE. DEATH IN THREE MONTHS FROM METASTASES*

CASEY A. WOOD, M.D.
CHICAGO

New growths on the eyeball, whether malignant or other, are so rare that a detailed history of an example of them seems worth while. I have been able to follow the course of a neoplasm of this kind almost from its beginning to its termination, and I take the liberty of reporting it.

Patient.—Miss J. O., aged 15, was referred to me Sept. 9, 1908, by Dr. F. W. Kettlestrings and Dr. H. S. Warren of Chicago, on account of a swelling of the right eyeball.

History.—She had had no trouble with her eyes except a slight discharge from them when a few days old, but this infection had lasted only a short time and had left no trace. From that time there was nothing particularly noticeable about her eyes until May, 1908, when the right lid became swollen. This was followed by an extension of the swelling to the eyebrow, after which it was noticed that the upper lid began to droop. Four weeks later the condition became decidedly worse and was shortly followed by pain in the eyeball itself. At that time she also noticed that any attempt to use the eye longer than half an hour—as in reading or studying—was followed by decided fatigue. Dr. Warren reported that the general health had been only fair, although the blood and urine, as well as the internal organs, were practically normal. She had been taking a simple iron and strychnia tonic. Her family history is negative so far as the occurrence of tumors is concerned and the patient has had none but the usual (infantile) complaints.

Examination.—On examination of her nose by Dr. Frank Brawley the patient gave a history of a yellowish-green discharge from the left nostril, but this had stopped before the eye trouble set in. She showed normal nares except a left posterior hypertrophy of the inferior turbinal. Coming to a nearer examination of the eyes vision of the left eye was normal; the patient read 6/5 minus and Jaeger 1, with good range. The sight of the left eye was 6/9 minus; Jaeger 1, not so well as on the right side. The fundi in both eyes were entirely normal. There was an apparent protrusion of the right eye. On raising the upper lid, which was distinctly swollen and covered about one-half the pupil, there was exposed a large, tense, semitransparent swelling which involved about one-half of the upper aspect of the globe. On digital examination, the tumor gave an elastic sensation and showed that it was in all probability confined to the superior bulbar surface and did not extend posteriorly. It was slightly tender to the touch, but the conjunctiva covering it was entirely smooth and non-adherent to the growth beneath. There was no true proptosis, although the globe and lids seemed more prominent than on the opposite side. The excursions of the eyeball were as extensive in the affected eye as in the normal eye. There was no evidence of changes in the cornea or in the sclerotic or overlying conjunctiva for 5 mm. around the sclerocorneal junction, and on using the ophthalmoscope there seemed to be, so far as it was possible to see, no involvement of the anterior segment of the internal eye. The new growth was apparently quite circumscribed, attached to the sclerotic but did not to any appreciable degree involve any portion of the conjunctiva. The right preauricular gland was rather hard, well-defined and slightly prominent. The corresponding submaxillary and anterior cervical glands were more easily outlined on the right side than on the left.

Roentgen Examination.—An *x*-ray picture of the orbital contents and neighboring cavities showed that there was no bone enlargement and probably no extension of the tumor mass behind the eyeball; indeed, the ocular swelling seemed during the whole time of observation to be confined to the upper half of the globe and to diminish in volume below the equator. A number of further observations were made of the neoplasm. Dr. Reichmann made several skiagrams and believed that the x-rays indicated an orbit on the right side freer of skiagram shadows than the left orbit.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Diagnosis.—The Calmette test gave a negative result in the opposite eye. That the patient might have the further benefit of any doubt, very large doses of iodid of potassium were given, in conjunction with pilocarpin sweats, for two weeks, with but slight benefit, except perhaps some reduction in the prominence of the preauricular gland. Under these circumstances and since the tumor showed a smooth surface, appeared to be circumscribed, was of elastic consistency, whitish in color and was associated with a preauricular enlargement, a diagnosis was made of probable subconjunctival leucosarcoma arising from the tissues about the superior rectus insertion.

Microscopic Examination.—To settle the question, under a general anesthetic a section of the tumor was removed on Oct. 1, 1908, and examined by Dr. Dagg of the Chicago Laboratory. His report is as follows:

"The tissue has the appearance of a small round-celled sarcoma. There are no well-formed vessels. One margin of the section shows diapedesis of red cells into the tumor mass. Mitosis of the cells not noticed."

The wound of operation healed kindly in a few days.

Although the right preauricular gland seemed to be less swollen after the treatment just outlined the group of glands at the angle of the jaw shortly became more prominent. In consultation with Dr. A. E. Halstead and after considering the *pros and cons* of the case, it was decided to do a combined exenteration of the orbit, with removal of the enlarged preauricular, submaxillary and cervical glands; in fact, of all the grandular tissue that seemed to be affected by the disease. On October 8, with the assistance of Dr. Halstead, this operation was successfully carried out.

Postoperative History.—On October 20 the skin incision involved in the removal of the extraocular glands had closed nicely and the patient did not complain of pain either in it or in the exenterated orbit.

Oct. 29, 1908: The patient left the hospital for her home. For some weeks after the orbital exenteration the Roentgen rays were used, as a remedial measure, within the orbital walls.

Dec. 29, 1908: The patient was able to go out of doors and was apparently doing well. The orbital wound showed no recurrent deposits and the external wound of operation had entirely healed.

Pathologic Report on Tumor.—From the pathologic department of St. Luke's Hospital I obtained the following report on the removed preauricular and submaxillary glands:

"The mucous glands from both sides show infiltrations of round cells about the ducts, corresponding to the small round cells of the primary tumor of the orbit, and are, therefore, to be regarded as metastatic small round-cell sarcomata."

I am indebted to Dr. Francis Lane for a report on the orbital mass which, of course, includes the eyeball, most of the conjunctiva and other tissues of the orbit.

"Gross Findings: Right eye; bulb collapsed with furrow horizontally across the cornea (globe injected with formalin 4 per cent.); mass of orbital fat surrounds a 9 mm. long optic nerve and extends forward to superior rectus; superior rectus severed 26 mm. back of corneal margin with cut surface, oval, 7x14 mm.; circular cut of conjunctiva varying from 9 to 11 mm. from limbus; upper inner quadrant of conjunctiva brownish color, wrinkled and folded, apparently much thickened and immovable over underlying sclera; bordering upper one-half of cornea the conjunctiva *bombé*-like and slightly overlaps superior quadrant of corneal margin; an irregularly shaped central defect of corneal epithelium. Deep in cornea are number of zigzag, for most part horizontally directed, narrow striæ [posterior to horizontal corneal groove and due to collapse (?)]; superficial, uniform, moderate corneal haze somewhat obscures an apparently normal anterior chamber and anterior iris surface; pupil round, 3.5 mm. diameter; lens opaque [postmortem (?)].

"Coronal Section: Anterior segment—sclera thinned; upper one-third of cut surface shows sclera covered with a closely adherent 0.5 mm. thick, firm, pinkish layer, from which capsule and conjunctiva can be easily stripped, leaving behind very delicate strands of connective tissue [Tenon's space (?)]. Lens yellowish-white and slightly translucent with transmitted light. Vitreous streaked and filled with innumerable very fine highly refractile particles (not crystals, but globules as shown under microscope). Posterior segment: retina very white color, cloudy vitreous hides details of disc head; inner lower half of sheaths of optic nerve thickened to 3 mm. and movable over nerve trunk.

"Anatomical Diagnosis: A small, round-celled sarcoma. The tumor cells always appear to surround the blood vessel walls or to lie in the perivascular lymph spaces and are never found within the lumen of the blood vessels themselves."

Remarks.—The last time I saw the patient she seemed very well. It was evident there was no recurrence of the neoplasm either in the orbit or in the neck or lower jaw. However, in March, 1909, the family physician reported to me that although she had had several attacks of *malaise* of apparently trivial import, she was quite well until the end of January when, after some obscure symptoms referable to her abdomen, she died rather suddenly of what Dr. Warren believes to be an abdominal metastasis, without the slightest appearance of the tumor in its original locality. No autopsy.

Anyone examining the bibliography of epibulbar tumors will find that, although the sarcomata are probably the commonest of the malignant forms, they are not so common as one might at first imagine. LaGrange[1] gives full references to all of these new growths described to the year 1900.

72 Madison Street.

ABSTRACT OF DISCUSSION

Dr. Melville Black, Denver: I have never had a case of epibulbar sarcoma of the eye; therefore, I do not feel qualified to speak of this case from personal experience. Dr. Wood is to be congratulated on having acted so promptly and for having performed so radical an operation. He is gifted with an unusually large amount of personal magnetism, and we must attribute to this happy faculty his having gained the consent of the parents to the early operation which undoubtedly prolonged the girl's life and enabled her to enjoy it to the last without pain. It is to be regretted that an autopsy could not have been held and the cause of death determined. From a scientific aspect, it is unfortunate that the girl could not have lived longer in order to know whether the growth would have returned at a point near the site of the former disease.

Dr. George F. Keiper, Lafayette, Ind.: According to Parsons in his "Pathology of the Eye," to 1904 there were only 80 cases of epibulbar sarcomata reported. The first was by Baumgarten in 1852, in which he differentiated it from "cancer." The non-pigmented variety numbered but 12. Parsons further states that sarcomata in other parts of the conjunctiva are very rare. It has fallen to my lot to have seen a spindle-cell sarcoma at the inner canthus of the eye and adherent to the eyeball. Though the eye had fair vision, the patient, a woman of 50, accepted the advice to have the orbit exenterated, leaving the eyelids, which did not seem to be involved. At the time of the operation it was a question as to whether the growth might not be also epithelioma. The subsequent microscopic examination showed its true nature to be sarcoma. Over ten years have elapsed with no recurrence. These patients are reported to be usually old. But three other reporters, Krautner, Benson and Schultze, report three cases in which the patients were 14 years and under. Dr. Wood's case, therefore, belongs to that group noted for its extreme rarity at the age of 15, as well as that rare variety of non-pigmented sarcomata.

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[1] Traité des Tumeurs de l'Oeil, vol. 1, pp. 237 to 246.

THE MANAGEMENT OF ACUTE HEMORRHAGIC GLAUCOMA IN THE PRESENCE OF ADVANCED ARTERIOSCLEROSIS

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DEFINITION OF HEMORRHAGIC GLAUCOMA

A glance through recent ophthalmic literature would seem to show that there is some difference of opinion as to what hemorrhagic glaucoma is. It therefore appears proper to preface these remarks by a definition of the term "hemorrhagic glaucoma," as I understand it, as follows:

This disease presents the usual symptom-complex of acute glaucoma, occurring suddenly in an eye in which retinal or other intraocular hemorrhages have previously occurred before any glaucomatous symptoms were present. In brief, the hemorrhages are the exciting cause. I believe that this condition should be differentiated from a pre-existing glaucoma in which hemorrhages have occurred subsequently. Clinically, an operation might be indicated in the latter class of cases, but would not only be valueless but positively injurious in the former class.

The predisposing cause in every case is probably general arteriosclerosis. Hemorrhagic glaucoma is always caused by the intraocular hemorrhages, but these should be looked on as a local expression of disease of the general vascular system.

Most of the cases occur between the ages of 50 and 70, and the constant accompanying condition is general arteriosclerosis. Fundamentally, the primary reason for the outbreak is the loss of balance between the general blood pressure and that of the eye, and this leads naturally to a consideration of the subject of increased blood pressure, or, more correctly, of chronic arterial hypertension. In any attempt to define the relations existing between arteriosclerosis and arterial hypertension it should not be forgotten that there is no exact correspondence between the pathologic changes in the vessels and the clinical phenomena. It should also be remembered that the blood pressure is greater when the blood stream is slow, and hence the rapidity of the blood current is a factor to be considered in these cases.

DISTINCTION BETWEEN ARTERIOSCLEROSIS AND ARTERIAL HYPERTENSION

We should draw an absolute distinction between arteriosclerosis and arterial hypertension, though we may recognize the relation of cause and effect. The arteriosclerosis encountered in cases of hemorrhagic glaucoma is of mechanical origin, the result of long-persistent high blood pressure, and presents an actual pathologic alteration of tissue in the vascular walls. On the other hand, arterial hypertension is a cardiovascular condition, the perverted action and abnormalities of which we are now able to recognize; and by the correction of these perverted activities it may in the future be possible by the regulation of the habits of life, by diet and by proper administration of drugs, to prevent or limit the development of arterial degeneration. The earlier this condition of chronic arterial hypertension is recognized and its importance properly estimated, the better we shall be able to correct its destructive tendencies, for the functional perversion of vascular tension is amenable to treatment, and thus the real pathologic condition known as arteriosclerosis may be prevented.

If by giving a vasodilator drug we relieve some of the unpleasant or dangerous symptoms in a case of arteriosclerosis, we effect no permanent benefit in the diseased condition of the arteries, but simply correct the hypertension. How much more valuable would this treatment be if undertaken before the arterial degeneration had begun: We are now able to estimate accurately the degree of hypertension, and can follow it up and regulate its progress and tendencies; and before long we may be able to state that the advance of old age is in inverse proportion to the pulse tension.

This relationship of arterial hypertension and arteriosclerosis is a complex problem, which is by no means easy of solution. In some of the smaller arteries the arteriosclerosis seems to cause an increase in the tension through increased peripheral resistance. Another apparently contradictory fact mentioned by Broadbent is that patients with very marked hypertension do not generally live long enough to develop a high degree of arteriosclerosis.

As regards the etiology of this hypertension, it would seem that heredity is a considerable factor, especially in males. Mental strain is very influential in developing hypertension, as is constantly seen in patients subjected to continual care and anxiety. The pathologic changes noted in connection with this condition are cardiac hypertrophy and dilatation, hyperplasia of the tunica media, and later the arteriosclerotic kidney and advanced general arteriosclerosis with enfeebled cardiac action.

In endeavoring to understand the real pathology of this complex condition we must differentiate between arterial contraction and the blood pressure. We must be able to decide whether the thickening of the arterial coats is an apparent thickening, due to hypertension, or whether the change is real and due to actual arteriosclerosis. The hypertonus is not confined to middle and later life, but is met not infrequently in early life. Here it may produce no symptoms of which the patient is aware, because of the greater elasticity and endurance of youth. Russell has well said that even in vigorous persons with sound cardiac action, hypertonus leads at once to heightened blood pressure and increased arterial tension. But hypertonus occurs in people with enfeebled heart action, and to this class belong the elderly patients with hemorrhagic glaucoma. In the former class any temporary excitement causes increased cardiac action and increased blood pressure, but as soon as the one subsides the other disappears. In the latter class the thickened arteries are associated with a low blood pressure, for these patients have no margin of reserve force in their hearts.

TREATMENT

With this brief description of the two differing conditions of arterial hypertension and arteriosclerosis, and the probable relationship of cause and effect existing between them, I ask attention to the subject of the paper: How shall we best manage these cases of hemorrhagic glaucoma, associated with advanced arteriosclerosis?

As before stated, these patients are between 50 and 70 years of age. The high blood pressure, with the increased vascular tension found in these patients, tends to raise the intraocular tension beyond the normal limits and well within the danger zone, and then the slightest exciting cause may bring about a retinal or vitreous

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

hemorrhage, which in its turn precipitates an attack of glaucoma. If the patient is hypermetropic, with shallow anterior chamber, the more or less complete obstruction of the channels of filtration is almost certain to occur, ending in the explosion of acute glaucoma. Now the classical operation for acute glaucoma is iridectomy, but we all know what has been the well-nigh universal experience of the results of iridectomy in hemorrhagic glaucoma. The sudden lowering of the intraocular tension almost invariably causes a sudden profuse intraocular hemorrhage, either subretinal or into the vitreous, which again increases the tension above the normal, the return of the severe pain, which can not be controlled, and ultimately necessitates the removal of the eyeball. Moreover, the operation of iridectomy on an inflamed eye is excessively painful and can not be done under cocain anesthesia, but demands general anesthesia. We are thus brought face to face with the actual dominating feature of the situation. These patients with extensive cardiovascular changes, with cardiac hypertrophy, enfeebled heart action and brittle arterioles, are not fit subjects for general anesthesia, because of the danger of a fatal termination. I believe that no operation, whether iridectomy or sclerotomy, which requires general anesthesia should ever be done in a case of hemorrhagic glaucoma in which the extensive cardiovascular disease makes the use of general anesthesia dangerous to the life of the patient. We have other means at our disposal for allaying the pain, reducing the increased tension and arresting the glaucomatous process, even though the eye remains permanently blind.

The immediate treatment for the relief of the urgent symptoms is the same for all these cases, but the subsequent management must vary with the age and general condition of the patient and his environment.

The immediate local treatment which I employ in these cases of hemorrhagic glaucoma, in order to avoid the dangers of an iridectomy, is as follows: Under the influence of a 10 per cent. solution of cocain, instilled as often as may be necessary, a careful paracentesis of the cornea is done, the instrument being withdrawn very slowly, and thus the aqueous humor is allowed to flow out only drop by drop from the anterior chamber. In this manner the intraocular tension is lowered very slowly, and the danger of the occurrence of an intraocular hemorrhage is reduced to a minimum. Two or three leeches are then applied to the temple and allowed to fill themselves until they drop, or the Heurteloup wet cup may be used, and the bleeding kept up as long as may be necessary. Then a solution of eserin sulphate, one grain, and pilocarpin hydrochlorate, four grains to the ounce is instilled every hour, until under the combined influence of the paracentesis, the local bleeding, and the miotics, the eye softens and the pain grows less. As the intraocular tension subsides and the intravascular tension diminishes the pain grows less and the instillation of the miotics may be less frequent. Then the patient is directed to have hot applications made to the eye for half an hour at a time, and to repeat them every two hours until the pain has gone. He is also directed to take twenty drops of the fluidextract of Jaborandi three times a day, as a valuable additional means for lowering the intravascular tension. Hypodermic injections of pilocarpin will bring about the same result, but in the presence of advanced cardiac disease they are dangerous. It is sometimes necessary to repeat the paracentesis of the cornea several times in the same careful way at varying intervals, but eventually the end is accomplished.

As the symptoms subside the use of the miotics may be reduced to two or three times a day, and then the all-important subsequent management of the patient begins. This must vary with the age and general conditions of the patient and the severity of the type of lesion. The habits of life must be regulated, being modified in strictness by the patient's general condition and environment. It must be largely dietetic, based on accurate knowledge of the patient's digestive capabilities. The administration of drugs, except to combat certain symptoms as they arise, is of secondary importance. The daily life of the patient should be rendered as quiet as possible, and there should be great moderation in eating and drinking. As an abundant meat diet raises the blood pressure, the amount of meat eaten should be strictly limited. For some of the patients a certain definite amount of systematic exercise, preferably walking in the open air, should be insisted on, because it increases oxidation, improves the capillary circulation and aids in the process of elimination. If the patient has been addicted to the use of alcohol in moderation, it is not wise to interdict it, but it should be taken largely diluted, for while dilating the peripheral blood vessels, it does not increase the blood pressure to any appreciable extent. Tobacco should be forbidden or only slightly indulged in, because it contracts the blood vessels and raises the blood pressure. Water should be drunk freely between meals in order to aid elimination. The products of faulty metabolism which induce hypertension only exercise their toxic effects while in the circulation. The uric acid group are largely eliminated through the kidneys, and the best renal eliminants are the salts of soda, potash and lithia. Each patient should be carefully studied for himself, and the dietetic and therapeutic management varied according to the necessities of the case. In many of these patients the arteriosclerosis has forced the heart to do an excessive amount of work, and at the slightest additional burden the heart may collapse in spite of the administration of a cardiac stimulant. If the general symptoms are severe the first necessity is rest in bed, and this must be enforced if we are to expect any improvement. Muscular exercise often produces temporarily a rise in vascular tension, and complete muscular rest in bed removes the additional strain and gives the heart a chance to recover its tone. I believe that in many, if not in all, these chronic cases in high-strung nervous individuals, the cardiovascular sedatives ordinarily employed are almost useless unless rest of the body in bed is insisted on.

To reduce the high blood pressure I employ sodium nitrite as a vasodilator, but always in combination with some reliable heart tonic. It is a wise precaution to have a thorough examination made of the heart and general circulation before prescribing any cardiac drugs, especially the vasodilator drugs. A rapid, irregular or intermittent pulse, with a rapid pulse rhythm, and with a systolic murmur, probably indicate a cardiac inadequacy with high blood pressure, and in such a condition cardiac stimulants should be combined with vasodilator drugs. A high blood pressure does not necessarily mean the need of the prompt administration of drugs, for Nature often maintains a cardiac integrity, in spite of the circulatory resistance, and the apparently urgent symptoms yield gradually without the use of drugs to reduce the pressure. If the blood pressure be over 200 millimeters of mercury, the vasodilator should be slowly administered and its effect on the blood pressure, the pulse rate, and the sensations of the patient carefully noted. The subjective sensations of the patient are often a better means of judging of the effect produced than the blood pressure or the pulse rate. The administration of a full dose at once might cause very serious consequences to the patient's heart.

I have tried the systematic employment of hot baths, as recommended by Hirschfeld, but with indifferent success. The hot bath changes the distribution of the blood pressure by unloading the internal organs and increasing the vascularity of the skin, and should afford prompt relief from pain. It also increases the elimination of waste products. But we must note very carefully the reaction of the patient, and it is not safe to begin with a temperature of more than 100 degrees. The duration of the bath should not be over ten minutes. Of course, the deciding factor in the application of the hot bath should be the condition of the heart and the quality and distinctness of the first and second aortic sounds. Without a fairly vigorous heart the hot bath must be very cautiously employed.

Following the suggestions of Erlenmeyer and Fraenkel, I aways give the patients some preparation containing iodin to reduce the viscosity of the blood. Either potassium iodid or sodium iodid, by diminishing the frictional resistance of the blood current, causes a diminution of the obstruction to the circulation and brings about better nutritive conditions in the parts. I give the potassium iodid in progressively increasing doses, changing to sodium iodid when the stomach revolts, and continue the use of the one or the other drug for a period of weeks or even months. When the administration of these drugs must be suspended for a period I advise the patient to take in the interval two or three drops of a 1 per cent. solution of nitroglycerin.

47 West Thirty-sixth Street.

ABSTRACT OF DISCUSSION

DR. **MYLES STANDISH**, Boston: I agree with the definition of hemorrhagic glaucoma given by Dr. Bull, with the proviso that the hemorrhages preceding the glaucomatous condition are more often retinal than otherwise. Dr. Bull, if I read this paper aright, considers the kidney lesions of which he speaks to be the result of arterial hypertension. That this is the general rule I do not believe. Many competent observers think that all cases of hypertension of the arterial blood current have their origin in pre-existing kidney lesions of the interstitial type. Whether this is true or not is somewhat difficult to prove, owing to the difficulties of diagnosis in the early stages of the disease, but I am firmly of the opinion that all cases of hemorrhagic glaucoma should be treated as if the presence of such kidney lesions had been proved in the management of the cases included with the definition of the writer I am in entire accord. Rest, quiet and an equable climate are always to be desired. An iridectomy is nearly always unfortunate, and if the victims of this distressing condition are to be relieved of pain, the intraocular tension permanently diminished, and an enucleation with its subsequent disfigurement and discomforts avoided, it must be accomplished by the methods outlined by the reader. I have seen repeated paracenteses succeed even in cases of great persistency. I remember in the practice of a colleague seeing a paracentesis done twenty-four times with an ultimately quiet eye.

In regard to the medical treatment I have nothing to add except that I have made use of the inhalation of amyl nitrite with advantage in some cases. We can not expect by these means to avert an enucleation in every case. An explanation of this fact is perhaps offered in a recent case of my own, in which, after the eye was removed, it was given to Dr. Verhoeff for examination. He reported to me that there was such a sclerosis of the canal of Schlemm that it amounted to the obliteration of that important channel. If that fact is approximately true in all these cases, it may be that the efficacy of repeated paracentesis depends on the subsequent formation of scars which permit of filtration and that this is the explanation of the permanent reduction of tension in many of these cases. It is not necessary that the tension should be normal in order to give relief from the symptoms. Comfort is not inconsistent with a slight increase of tension.

DR. **MELVILLE BLACK**, Denver: I would like to emphasize what Dr. Bull has said regarding the necessity of having a thorough examination made of the heart and general circulation before administering any drugs. It would be different if we could always be sure that vitreous hemorrhage was attended with high arterial tension, but my experience has been that these hemorrhages frequently occur in the presence of subnormal arterial tension. The treatment of low and high tension is very different. If drugs are given empirically, it may be that vasodilators would be given when low tension exists and the condition thereby made worse. Within the last few years I have had several of these cases, and among the number were two cases of vitreous hemorrhage with secondary glaucoma. The blood pressure in one case was 250 and in the other 105. In both cases one eye was lost. These patients are still living. The one with low tension retains very good vision in the remaining eye, but within the last few months there have been a few retinal hemorrhages, and this was the condition which preceded the vitreous hemorrhage which destroyed the other eye. In consequence, the patient is somewhat worried at the present time. The other patient has been under observation for something like five or six years, one eye being lost from a vitreous hemorrhage, causing secondary glaucoma. The fellow eye soon began to have a number of recurring hemorrhages scattered throughout the retina with symptoms of optic nerve disturbance, such as described by Dr. Bull some years ago from the pressure of the hardened central artery where it penetrates the optic nerve. The patient had a small scotoma which extended over the macular region and put out central vision. That eye, however, has remained free from an attack of glaucoma from vitreous hemorrhage, and I attribute this as well as the man's fair general health to the lowering of the blood tension to within safety limits. In high tension cases I think the diet should be exceedingly simple, largely vegetable; and even in the presence of interstitial nephritis we often keep these patients alive considerably beyond the period of two years, which we used to consider the limit.

DR. **EDWARD JACKSON**, Denver: With reference to arteriosclerosis in connection with hemorrhagic glaucoma, it ought to be borne in mind that it is frequently, and for a long time, a localized process. This is true of the larger vessels, as examined postmortem; and it is illustrated in every case examined with the ophthalmoscope. Certain portions of the vessels show advanced sclerosis, and others seem comparatively free from it. Hence, while there may be marked retinal evidence of arteriosclerosis in one case, it may not be detected in another, yet the general condition of the chorioidal vessels may not be essentially different in the two cases. With reference to blood pressure, probably more extended observation will show that nearly all of our patients with primary glaucoma have high blood pressure. In all in whom I have taken the blood pressure this was shown; and within the last year Frenkel reported fifteen cases, in fourteen of which the blood pressure was notably high. So that discovering retinal hemorrhage and evidence of arterial sclerosis in the retina, along with an abnormally high blood pressure, does not take a case of glaucoma entirely out of the category or separate it very widely from other primary glaucomas.

About six months ago I obtained satisfactory results from an iridectomy in a patient with an enormous number of widely diffused retinal hemorrhages. The blood pressure was 175 mm. during the acute pain, and 185 mm. when the patient was free from pain; and yet the iridectomy was not followed by any serious complication and led to a permanent reduction of the intraocular pressure. In these cases posterior sclerotomy has not been mentioned. I think it is equal, probably superior, to paracentesis of the anterior chamber. It opens the chorioidal vessels, and I think undoubtedly temporarily reduces the blood pressure in the veins and locally in the arteries of the chorioid; and the patient perhaps has a better chance on account of not having a subsequent hemorrhage.

With reference to the operations that have been mentioned, I want to call attention to the formation of new veins in the scar. In the case I mentioned I had done a posterior sclerotomy and the iridectomy was not done for about three weeks afterward. The sclerotomy scar bulged until it was 5 or 6 mm. in diameter and stood out 4 mm. from the general level of the sclera. Ultimately that scar showed a bunch of veins that have the capacity of all the veins usually found perforating the sclera in a senile eye. I think this formation of veins after a cyclodialysis, after iridectomy and after sclerotomy may have an important influence in the permanent reduction of tension. Of course, diet and general regimen are of the greatest importance, and I think we can not have it too much impressed on us. I think that probably the recent work of Bordley and Cushing makes the reduction of blood pressure by nitrites problematical. I have never seen any marked lasting benefit from them.

Dr. F. H. Verhoeff, Boston: I think the pathology will throw some light on the treatment of this condition. I admit that it is not altogether fair to draw conclusions from eyes enucleated, but my statements are based on them. Dr. Bull states that hemorrhagic glaucoma is due to intraocular hemorrhage. The pathologic examinations do not bear this out, because in typical cases there are no hemorrhages in the vitreous, but only in the retina. The retinal hemorrhages and the glaucoma are due to the same cause, which in most of the cases carefully examined has been obstruction of the central vein by endophlebitis. So that the glaucoma is really the result of edema of the retina and vitreous. Just whether this is due to the fact that the vitreous becomes loaded with albumin and can not filter off readily through the canal of Schlemm, or whether due to the high osmotic pressure set up is uncertain. In view of the cause of the condition it does not seem that treatment could have much effect on vision. All that can be attempted is to keep the eye in the patient's head, and also to combat the general vascular disease by measures which I think are unfortunately not often successful.

Dr. R. L. Randolph, Baltimore: In a paper fifteen years ago I reported three cases of hemorrhagic glaucoma treated by paracentesis of the vitreous. The first patient was a woman of 52, who came to me with a number of superficial hemorrhages scattered over the retina of one eye. The diagnosis was made of hemorrhagic retinitis, due probably to arteriosclerotic changes generally. Six weeks later, high tension developed, associated with intense pain. It struck me immediately as a case of the so-called hemorrhagic glaucoma. An iridectomy gave relief for ten days, when the pains returned and in a most unmanageable form. I then adopted the following measure: A Graefe cataract knife was introduced into the vitreous about half way back and about one-fourth of the length of the blade. The knife was introduced in three places, just above the external rectus, just a little to the inner side of the superior rectus, and the last puncture was made a little below the internal rectus. Of course, all punctures were made at one sitting and under cocain and apparently with little or no discomfort. This gave her complete and permanent relief. She died ten years later of chronic nephritis. The eye at the time of her death was somewhat smaller than its fellow. The second case was in a woman of 38 who developed changes in the retina following pregnancy, and a month after I first saw her she was suffering with acute inflammatory or what I regarded as hemorrhagic glaucoma. In this case paracentesis of the vitreous in the manner described gave relief. The third patient was a man of 70, and here the operation failed utterly. This, too, when first seen was a typical example of hemorrhagic retinitis of one eye which some weeks later developed high tension. In my opinion, the operation is a harmless one and is calculated, judging from this limited experience, to relieve pain and preserve at least in the comely eye.

Dr. D. W. Green, Dayton, Ohio: I have carefully kept records at the National Military Home of 700 observations of blood pressure in men above 60 years of age. I have not the figures before me, but my recollection is that I have never seen acute glaucoma with normal blood pressure. The patients I have seen have always had a blood pressure above the standard, which I have established for that age at 160 mm. of mercury.

MORPHEA-LIKE EPITHELIOMA *

M. B. HARTZELL, M.D.
PHILADELPHIA

Although the form of epithelioma about to be described in this paper presents such peculiar clinical features, it has not yet, so far as I know, been mentioned in text-books of surgery and is only very briefly alluded to in but one text-book of dermatology. I have, therefore, thought it might be of some interest to call attention to it very briefly and to report some illustrative cases which have come under my observation in the past few years.

Case 1.—In October, 1902, Mr. H., 50 years old, consulted me for an affection of the skin situated on the face just beneath the malar eminence, consisting of an oblong, yellowish-white, somewhat depressed patch about three-quarters of an inch long by one-half inch wide, having at its upper border a split-pea-sized ulcer with slightly elevated and thickened edges. The patient stated that the patch had existed for four or five years, but ulceration had begun only two years previously. The disease was unattended by any marked subjective symptoms, but its steady spread and the appearance of ulceration led the patient to seek advice. The lesion was so extremely like morphea in many of its features that notwithstanding the ulceration, such a diagnosis was made, although the possibility of epithelioma was not overlooked. After the failure of other forms of treatment to effect any material change in the lesion it was subjected to the *x*-ray, and under this treatment the ulcer rapidly healed in the course of two months and the entire patch almost, but not completely, disappeared. Some two or three years later there was a slight recurrence in the shape of a small scaly nodule which was unmistakably epitheliomatous.

The second case was remarkable not only on account of the peculiar features presented by the lesion, but also because of its situation and the early age at which it made its appearance.

Case 2.—Jennie M., aged 24, came to the Skin Dispensary of the University Hospital in March, 1902, seeking advice for a lesion situated on the left side of the thorax in the axillary line, on a level with the breast. This lesion, which was of four years' duration, consisted of a waxy-looking, yellowish-pink oval patch about two and one-half inches long by one inch wide, its long axis parallel with the ribs, with a rounded, slightly elevated border over which ran numerous fine blood vessels arranged radially. The center of this patch was occupied by an almond-shaped ulcer with sharp edges which had made its appearance about three years after the beginning of the affection. There were no subjective symptoms worth noting. The patient had been under treatment at various hospitals, and various diagnoses had been made, but epithelioma had not been included among them. During the year or more in which the patient was under more or less continuous observation there was practically no change in the appearance of the lesion except that the ulcer had slightly increased in size. After the failure of various methods of treatment to bring about any noticeable improvement, the patient was urged to permit excision, but she declined this, and soon ceased attendance at the dispensary. Six years later she reappeared with the site of patch occupied by an extensive linear cicatrix which she said was due to prolonged *x*-ray treatment given at another hospital, and in this cicatrix was a small nodule which microscopically presented unmistakable signs of carcinoma.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The third case was of special interest, because the clinical diagnosis of epithelioma was confirmed by microscopic examination, a procedure which was not possible in the two previous cases because of the unwillingness of the patients to permit the excision of a portion of the growth; it was also interesting because it was a close copy in many respects of the first case published, a beautiful model of which is in the museum of the St. Louis Hospital, Paris.

CASE 3.—C. N., female, unmarried, aged 50, an inmate of a home for blind women, was referred to the skin dispensary of the University Hospital by Dr. William Evans, the attending physician of the home, for an opinion concerning an affection of the skin of the forehead which consisted of a yellowish-pink, slightly elevated, round, smooth plaque about the size of a silver half-dollar, extending from the root of the nose up over the forehead, the border covered by numerous fine vessels running toward the center of the patch, which gave it a distinctly violaceous hue. At the root of the nose was a deep, irregularly quadrilateral ulcer with sharp edges. The disease had begun some five or six years previously, and, according to the statement of the patient, had followed immediately on a blow. A clinical diagnosis of epithelioma was made, and a small piece was excised from the edge of the ulcer and submitted to microscopic examination; this examination fully confirmed the clinical diagnosis, showing the growth to be an epithelioma of the baso-cellular type. But while it was easy to demonstrate the epitheliomatous character of the lesion, nothing was found in its histology to explain its peculiar clinical features.

To these three cases should probably be added a fourth, seen in the University Skin Dispensary, ten years or more ago, in which a diagnosis of ulcerating morphea had been made. The patient was a woman, 40 years old, who had a flat, round violaceous, somewhat depressed patch on the tibia just below the patella, with a small ulcer at the border. Owing to the scantiness of the notes of the case, details are lacking, and, as the woman soon disappeared from observation, the further course of the affection is unknown; but from later experience I feel assured that this case probably belongs to the group of cases here described.

The first reference in medical literature to this peculiar form of epithelioma is to be found in the *Bulletin de la Société francaise de dermatologie et de syphiligraphie* for 1899.[1] At the séance of July 13 of that year Danlos presented a man who had on the nape of the neck a round plaque 6 cm. in diameter, having a ring-like border about 1.5 cm. broad of a yellowish hue, traversed by numerous vessels which ran from the periphery toward the center of the plaque. Around this slightly elevated ring was a lilac-colored zone, while the central portion showed an irregular, ulcerated surface. A biopsy demonstrated the epithelial character of the lesion, and the case was exhibited as one of epithelioma simulating morphea or xanthoma. In the discussion which followed the presentation of this case, Brocq stated that he had seen two similar ones. At the clinical meeting of the American Dermatological Association, held in Philadelphia in June of the same year, Stelwagon[2] presented a case of "flat epithelioma of the temporal region with a superficial inch-wide border resembling morphea"; and this same author briefly alludes to the possibility of epithelioma resembling morphea in his treatise[3] on diseases of the skin.

In the third edition (p. 1012) of his well-known work on diseases of the skin, Crocker refers to a case of rodent ulcer, unique in his experience, which was quite certainly an example of morphea-like epithelioma. On the temple of a woman was a lemon-yellow, slightly elevated plaque the size of a shilling, with a few small vessels running over it centripetally, which had begun as a hemp-seed-sized white spot when she was 35 years old. Three and one-half years later, when ulceration had taken place, the growth was excised and found to be a typical epithelioma of the rodent ulcer variety. Crocker states in a note that when this case was exhibited at the International Dermatological Congress in London, in 1896, no one was able to make a diagnosis.[4]

In a paper[5] read before this Section, at Chicago, in 1908, Fordyce refers very briefly to a case of tricho-epithelioma which "presented the clinical appearances of a morphea without a suggestion, macroscopically, of a tumor formation."

The foregoing are the only references in literature to this peculiar and interesting form of epithelioma which I have been able to find.

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ABSTRACT OF DISCUSSION

DR. JOHN A. FORDYCE, New York: I have seen one case which was identical with the type described by Dr. Hartzell. There was a depressed, whitish, morphea-like lesion involving the skin of the chin, covered by dilated blood vessels. The lesion gave no suggestion of epithelioma until a biopsy was made. It was of the tricho-epithelioma type. This case was reported in THE JOURNAL, Oct. 24, 1908, p. 1398, among some of the unusual forms of epithelioma of the skin.

DR. LOUIS A. DUHRING, Philadelphia: The question might arise whether such epitheliomatous degenerations should be regarded as carcinoma of the skin simulating morphea in form and general appearance or whether they may begin in some other way—as morphea, and then undergo degeneration. As has already been remarked, there is no doubt that morphea lesions may at times undergo ulceration. I have seen several cases of the kind. There seems on the other hand, however, to be no doubt that occasionally carcinoma of the skin manifests itself in the form of a lesion, especially on the face, simulating the morphea patch rather closely, though perhaps generally the lesion is raised and not flat or sunken.

DR. HENRY H. HAZEN, Washington, D. C.: About two years ago I saw a woman with a morphea-like patch on the right cheek which she stated had been there for nine years. The spot was slightly depressed, with a hardened edge. Epithelioma was suspected, and on biopsy and examination the lesion proved to be a typical basal-celled epithelioma. There was no recurrence two years after excision, and no similar lesions have developed elsewhere.

DR. WILLIAM A. PUSEY, Chicago: I wish to express to Dr. Hartzell a feeling of personal gratification for the title that he has given his paper. It describes with great accuracy a type of epithelioma of which I have seen a few examples. I imagine that Dr. Hartzell's conception of these lesions is that they are not morphea and have nothing whatever to do with morphea except in the resemblance they bear to it. It is a superficial epithelioma of the skin that looks like morphea. When I first saw this title on the program I was struck by it because at the time I had such a case under observation. In this case the lesion was ivory-like, yellowish-white in color, infiltrated, without elevation or depression. The infiltration was dense and there was no violaceous border, but a marked deposit of black pigment. There was no ulceration, and there had been none. Histologically, it was a basal-celled carcinoma, and the diagnosis was made by the surgeon who sent the patient to me. I have seen several similar cases in the past. Dr. Schamberg brought up the question of the possible development of the epithelioma in a morphea lesion from the use of the *x*-ray. In my case the patient had never been exposed to the *x*-rays before I saw him. Under the use of the rays the lesion disappeared with the exception of this black pigmented spot which I destroyed by cauterization.

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[1] Ann. de dermat. et de syph., 1899, x, 656.

[2] Stelwagon: Tr. Am. Dermat. Assn., 1899, p. 166.

[3] Stelwagon: Diseases of the Skin, ed. 5, p. 819.

[4] I am indebted to Dr. George Pernet for directing my attention to this case.

[5] Fordyce, J. A.: Some of the More Unusual Forms of Epithelial Growths of the Skin, THE JOURNAL A. M. A., Oct. 24, 1908, li, 1398.

Dr. M. B. Hartzell, Philadelphia: Notwithstanding the scant mention of this disease in dermatologic literature, I do not think that it is really rare. As ulceration had already taken place before the *x*-ray was used the latter could by no possibility be held responsible for the epithelioma. As is well-known, ulceration takes place in some cases of morphea owing to the tense condition of the skin; but I believe that the cases here reported were epithelioma from the beginning. This is simply another example of the mimicry so often seen in diseases of the skin. The case referred to by Dr. Pernet, in Crocker's book, had escaped me, but that was not one to which I referred. It is difficult to explain the peculiar clinical features of these lesions. So far as my rather hasty study of the sections goes, there is nothing in the histology to account for the clinical appearances.

THE TEACHING OF DERMATOLOGY—DERMATOLOGY AND THE PHARMACOPEIA *

[Editor's Note: The Chairman's address with the above title, by Dr. William Allen Pusey, Chicago, appeared in The Journal, June 19, before the discussion thereon had been submitted to the speakers for correction. The discussion was therefore omitted at that time and is now presented below.]

ABSTRACT OF DISCUSSION

Dr. Louis A. Duhring, Philadelphia: All teachers of dermatology doubtless have their own methods of bringing the subject before the classes. Of course, it is well understood that they are usually limited in the amount of time allotted to the subject in the college curriculum. Dr. Pusey intimated that the dermatologic material at the command of the teacher in most universities was usually sufficient. That, in my opinion, depends to some extent on the city where the school is located, but even in some large cities in this country it is not so abundant at the college clinics as in most of the cities of the old world. There are certain cities where difficulty exists in getting enough material of the right kind, especially where large classes are to be provided for. Coming to the matter of didactic instruction, I have always regarded it as distinctly valuable to the student. I base this view largely on conversations with former students with whom I have come in contact in after years, and their statements on the question have impressed me much. In the institutions with which I am connected as a teacher, our examinations for a number of years have been oral, and I have, therefore, from remarks made, been convinced that students have acquired a good deal of knowledge from didactic lectures. I do not think that the importance and value of properly illustrated didactic lectures should be ignored. Compel the students to read and to become familiar with terms and nomenclature, and this, in my opinion, in itself is distinctly valuable. In connection with didactic instruction arises the question of illustrations. Should we illustrate our lectures very fully or only partially? Should we throw on the screen a large number of pictures with each disease or only a few selected typical cases? Some err, I believe, in illustrating lectures too freely. Students, I think, learn more from a small number of typical illustrations, either large, colored portraits, well-illuminated or photographs thrown on the screen, or through wax models, while too many illustrations in succession only confuse and embarrass. Wax models of skin lesions in particular are of much value. I do not think they are sufficiently appreciated.

Briefly summing up my views on the subject, I regard clinical instruction as, of course, of paramount importance, but, as already remarked at times, it is difficult in some cities to get sufficient material for lecture purposes for a class of, say, 125 students, several times weekly. Secondly, I view didactic instruction as of much value, especially when combined with a moderate number of typical, colored illustrations. I am aware that some teachers may take exception to these views, but we should each express our own based on experience with classes and that is what I have tried to do.

Dr. M. B. Hartzell, Philadelphia: I think I have already expressed my views on this subject in answer to the questions that were sent to me by the chairman of the committee, but there are one or two points about which there may be some debate. One relates to the amount of time that should be devoted to the clinical teaching of dermatology as compared with that given to didactic instruction. Some regard the didactic lecture as out of date; and I agree that it would be out of date if each one of us had a clinical service sufficiently large to illustrate all classes of diseases of the skin. I am acquainted with some of the larger skin clinics of the world, and with perhaps a single exception, I do not know of anywhere it would be possible to give a systematic course in dermatology by illustrative cases alone; therefore, we are compelled to give a certain place to didactic lectures. Of course, there are didactic lectures and didactic lectures. If given in a perfunctory way they do not amount to very much, but if the teacher is honest and earnest, they furnish an important foundation for other kinds of instruction.

There is only one way in which the student can actually learn dermatology, and that is, by seeing the cases. One might as well attempt to describe a sunset to a man who had never seen one as to describe some cases of disease of the skin. It is absolutely impossible to have a real, practical knowledge of diseases of the skin without considerable acquaintance with their appearance as they occur in the living subject. Illustrations, wax models and photographs are very well in their way, but nothing can take the place of the living subject. I believe that no actual teaching of dermatology can be done which neglects to give this a large place in the course of instruction.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

THE CHRONIC SCALY ERYTHRODERMIAS *

WILLIAM B. TRIMBLE, M.D.
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NEW YORK

The literature on this subject is comparatively meager, especially in this country. This fact alone would seem to be sufficient warrant for further comment, even if the malady were not classed among those which are strangest and most interesting. The rarity of the disease also leads me to report three cases, which have come under my care within the past year; a goodly number, it appears, to fall to the lot of one observer in so short a period. Two of them are clinic patients, the observations being made in the service of Professor Fordyce, at the University and Bellevue Hospital Medical College; the third is a private case.

Sporadic cases have been recorded by Unna, Julinsburg, Jadassohn,[1] Méneau,[2] Brocq and others on the Continent; by Crocker,[3] Little, Galloway, Fox, and Macleod, in England, and by White, Anthony[4] and

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Jadassohn: Festschr. zu Ehren von Moritz Kaposi, 1900: Verhandl. d. LV Deutsch. dermat. Kong., 1894.

[2] Méneau: Jour. d. mal. cutan., 1902.

[3] Crocker: Brit. Jour. Dermat., 1905.

[4] Anthony, H. G.: Report of a Case of Parakeratosis Variegata, Jour. Cutan. Dis., 1906, xxiv, 455.

Fordyce in our own country. Several of these observers have expressed their views in excellent articles on the subject, to whom reference will be made later.

The ground has been fairly well covered by previous observers, but the subject has been by no means exhausted, so, while not hoping to disclose any unique or surprising facts, I shall be glad if any of my observations are new and helpful to others.

The diagnosis was reached after careful study, both pathologically and clinically, the patients being examined many times, and shown to my confréres on numerous occasions. Experience has long since taught me that it is extremely difficult to fix in the mind's eye the aspect of a rare skin disease from a written description, without having under observation a similar case. For that reason illustrations are shown so as to throw as much light as possible on the description.

REPORT OF CASES

Case 1.—*Patient.*—A woman, aged 26, single, born in Poland, weight about 120 pounds, seamstress by occupation. She was a well-developed young woman, slightly below the medium height and, except for her skin affection, enjoyed good health. (Fig. 1.)

Family History.—The patient's father died at 58, having suffered from paralysis for some months previous to his death; the mother is still living but not strong. She had three sisters and four brothers, all living and healthy. There was no history of tuberculosis in the family, and, as far as she knew, no other member had had a dermatologic complaint.

Personal History.—The patient said that she was a sickly child, having had practically all the diseases of childhood, the most noteworthy being measles and scarlet fever. Her hearing was slightly impaired on the left side as the result of the fever, and a scar existed on the cornea of the left eye, the aftermath of an ulcer, which was the sequel of the measles. She came to this country when 19, and soon after that time suffered from suppression of the menses; this lasted about six months, during which period the disease first made its appearance, making its duration six years.

Present State.—The eruption was almost universal, the exceptions being the face and upper part of the back, viz., above the superior borders of the scapulæ. On the chest, back, arms and forearms, it occurred in ill-defined, noninfiltrated patches, varying from the size of a pea to that of a silver quarter. They were dull pink at the periphery, with a brownish tendency toward the center; the patches were apparently broken up and coalescing in places; these, mingled with areas of healthy skin, gave it a mottled appearance. The ensemble was pinkish yellow to purple in some places. This purplish hue was marked on the lower extremities, where practically no healthy skin existed; the condition here resembled ichthyosis greatly, with the exception of the color. The chest plaques were somewhat like those of pityriasis rosea. The lesions were covered with fine scales which left no bleeding points on removal; this scaling was more marked on the lower extremities, the disease being much older in these regions. There was a small patch on the palm of the left hand, but the right palm was free. The soles exhibited a tendency to scale slightly, but no definite lesions were visible. The nails were unaffected. The patient perspired very little on the body, but freely and constantly on the face, even in winter; the disease was attended with practically no itching, perhaps a very little in the summer. When the case was first seen, and for some time afterward, the lesions were all macular; the patient was subjected to strong and vigorous treatment, and at the time of last report a few of the small lesions on the forearms were slightly elevated and might be called papular. Abortive exacerbations and remission took place but the evolution of the patches was extremely slow. The urine showed no abnormal constituents.

Histopathology.—The whole epidermis was very much thinned, especialy in the middle of the specimen; the horny layer was slightly increased in thickness. It was completely cornified in most of its extent, but in one or two places a parakeratosis existed, though the retained nuclei were quite pale. The stratum lucidum could be seen in a portion of the specimen. The granular layer also varied; it was entirely wanting or very much diminished where the parakeratosis existed; in other areas where the stratus corneum was thin it was quite distinct, though consisting of only one layer of cells. In one rather large area in the center the rete pegs were obliterated, the prickle layer at this point being flat and consisting of two or three layers of cells. This change occurred immediately over that portion of the corium where the cellular exudate was most marked. Only a slight degree of intercellular and intracellular edema was discernible. The palisade layer in places was very indistinct, the cells being arranged transversely instead of longitudinally. The corium showed dilated vessels filled with blood, and a moderate amount of perivascular infiltration, lymphocytic in character, with an occasional plasma cell. Some of the sweat coils were dilated, and on the surface the mouths of the follicles were somewhat widened and filled with horny material.

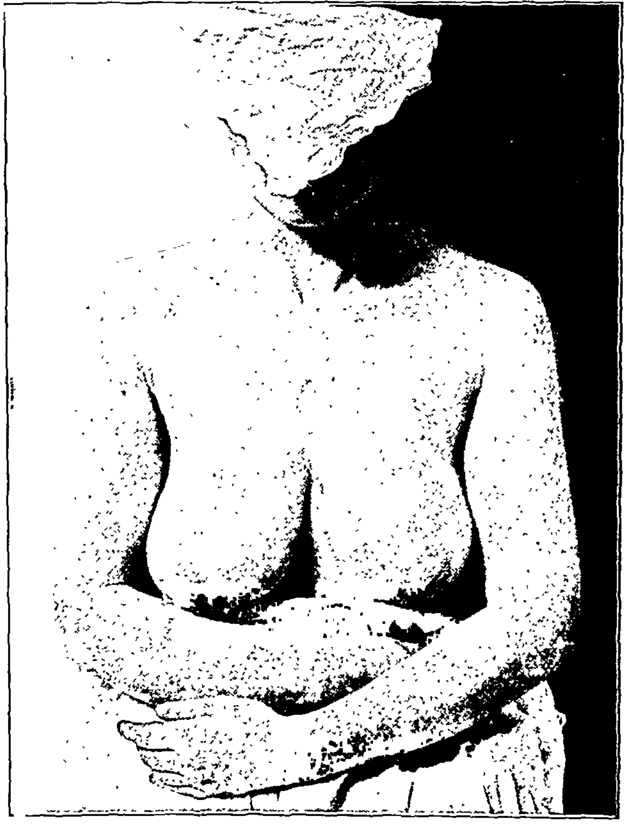

Fig. 1.—Chronic scaly erythrodermia, Case 1.

Case 2.—*Patient.*—A man, aged 40, married, nativity, England; occupation, butler; strong, healthy, medium height, weight 160 pounds. This case differed from the preceding one as to duration and location (Fig. 2).

Family History.—The patient's father's death was caused by an attack of pneumonia at 55. Tuberculosis was the cause of the mother's death at 37. The patient was the only living child; his mother had four other children, all of whom died at birth. Collateral branches of the family were strong and healthy, for far as he remembered; no other member of the family had a cutaneous malady. His wife and child were in good physical condition and had never had a skin disease.

Personal History.—About twenty-two years ago the man had a sore on his penis; he was told at that time by a first-class physician that it was entirely local; no secondaries followed. He gave a rather obscure history of having worn "braces" and having been treated by an orthopedic surgeon for some spinal trouble, caused, as he says, by a fall. It seemed probable that he had had some slight anterior curvature, as when he stood in the military posture he was noticeably "sway-backed." There was no apparent lateral curvature of the spine. He did not remember having any of the diseases of childhood, but had had two severe illnesses since adolescence. The first was an attack of cerebrospinal meningitis about eighteen years ago, and the second rheumatism of shoulder, which persisted for weeks.

Present State.—The arms and lower extremities, especially the thighs, were thickly covered with pinkish-brown patches, most of which were about three-quarters to one inch in diameter; they were superficial, free from infiltration and had a tendency, in this case, to be rather sharply circumscribed. Those on the thighs were almost a perfect picture of the lesions of pityriasis rosea. The desquamation is marked and they coalesced in places, giving a somewhat marbled appearance. The patches on the legs, as well as those on the arms, were very slightly infiltrated and more scaly than the rest. The duration of the disease had been twenty years, and, as a rule, it remained stationary; it exacerbated and remitted, however, but only at long intervals, the old lesions never disappearing entirely. The patient stated that the eruption had disappeared completely on two occasions; the first time, during the attack of cerebrospinal meningitis, and the second time, when he was under treatment for the rheumatic shoulder; the latter disappearance came about after he was put upon a diet of bread and milk; it reappeared very quickly when his regular diet was resumed. There was practically no itching, possibly a little at night, but never enough to cause sleeplessness or annoyance. The extremities were the main locations, but there were a few lesions on the trunk. The palms and soles were free and so was the face. There was an occasional papule, but the disease was, in the main, macular; the piling up of the scales in some of the small lesions gave it a papular feel, but when these were removed by the fingernail the lesion seemed to be flush with the normal skin. There were no hemorrhagic points on removal of the scales. The nails were in good condition. There was no glandular enlargement, and no dandruff of consequence. The urine had a specific gravity of 1037 but the examination was negative in other respects. The evolution of the lesions was very slow. The patient perspired excessively on the face but normally on the body.

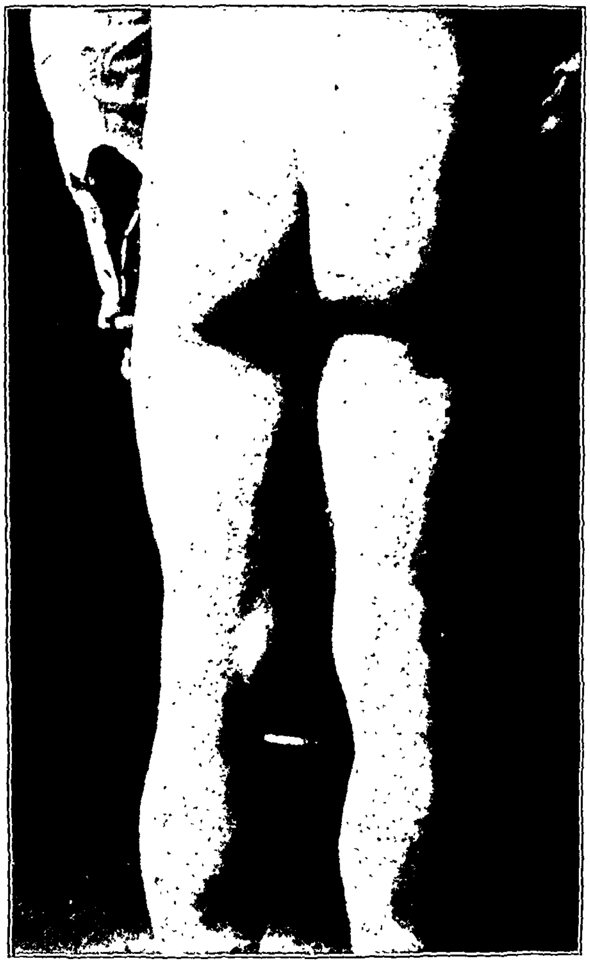

Fig. 2.—Chronic scaly erythrodermia, Case 2.

Histopathology.—The horny layer was irregularly increased in width, and where it was augmented in thickness parakeratosis existed. One portion was firmly adherent, and contained well-stained but flattened nuclei. The stratum lucidum was not constant. The granular layer was not uniform either as to depth or density of granules; it was much diminished or lacking in some places, while it was thickened in others. The parakeratosis was more marked over the places where the granular layer was thinned or absent, although it existed in other parts of the section. An overgrowth of the rete was present; in one area the pegs had anastomosed, forming a network. The palisade layer was intact and about normal. There were a few emigrated leucocytes present both in the rete and in the scale. In the upper corium a mild lymphocytic exudation was observed; the vessels were dilated and sheathed by lymphocytes. There was some proliferation of the fibroblasts. The appendages presented nothing beyond a dilatation of some of the coil glands.

For the sake of brevity, the history of the third case will be shortened, eliminating the parts that seem to have no special bearing.

CASE 3.—*Patient.*—A woman, aged 27, married, born in United States; housewife. She was somewhat above medium height, very thin and anemic; weight 115 pounds (Fig. 3). Although her appearance indicated the contrary, she insisted that she was perfectly well. The family history was of negative character and did not seem to bear any weight.

Personal History.—The duration of the disease was one year. The patient had never before been afflicted with a skin disease. She had no children, having had, some years ago, a double ovariotomy performed. The reasons for this were obscure. She had never had a serious illness.

Present State.—When the patient first presented herself for treatment the left side of the face was much swollen, almost to the point of closing the left eye. This was diagnosed as neurotic edema. Her recovery from this was rapid. She then called attention to the disease in question, which had been present several months. The eruption was, in the main, confined to the trunk; there were some few scattered lesions on the arms, but the chest, back and abdomen were the main locations. The palms, soles and face were free. The lesions in this case were much smaller than in the two preceding; the majority were about the size of a match-head, a few reaching the dimension of a half dime. The eruption was maculopapular, the papular element being in the great minority. The color of the lesions was dull pink with a brownish tinge, and they were scaly and discrete. The scales could be removed without bleeding. The case was under observation one year, and during that time had three so-called exacerbations; the evolution of the new lesions was slow, and the old ones never entirely disappeared; in fact, the history was the same as in the other cases, except that the lesions were much smaller, and discrete. The urine examination was negative. The patient perspired very freely on the face, but normally on the body.

Histopathology.—The changes in this specimen were so slight that a very few words will suffice for its pathology. The epidermis was thin in all its layers, but presented no other abnormality. Only an occasional nucleus could be found in the horny layer, which was almost completely cornified. In the upper cutis a very mild perivascular infiltration of lymphocytes was seen.

CLINICAL ARGUMENT

It has been the tendency of the dermatologic profession of late years to designate as identical all the diseases with the following titles: Dermatitis psoriasiformis nodularis, parakeratosis variegata, *érythrodermie pityriasique en plaques disséminées,* pityriasis lichenoides chronica, dermatitis variegata, lichen variegatus, etc., *etc.* This is *not* concurred in by some observers, especially by those who have reported sporadic cases. The divergence of opinion is, in all likelihood, due to the fact that the disease is very rare, and few cases fall to the lot of one observer. Some manifestations predominating over others, in widely separated cases, may also account for the various names it has acquired.

Ever since the original description of parakeratosis variegata in 1890 by Unna, Santi and Pollitzer[5] the chief point of contention has been whether the primary lesion of the malady is a macule or a papule. This is still an unsettled question. In the article just mentioned many of the lesions were described as papular.

Brocq,[6] in 1897, in a report of cases observed at the Hôpital Broca-Pascal and described under the head of *érythrodermie pityriasique en plaques disséminées,* did not mention any papular element, but spoke of the disease as a pityriasis in circumscribed patches.

J. C. and C. J. White[7] in 1900 reported cases of Brocq's pityriasis in patches, seen at the Massachusetts General Hospital; they lay great stress on the fact that the lesions are macular and not papular.

Fox and Macleod[8] in 1901, in reporting a case of parakeratosis variegata, speak of the lesions as maculopapular, the macular element predominating. Brocq[9] in a later admirable communication inclines to the opinion that all the diseases, the numerous titles of which have been given above, are related. He has grouped them all under the head of parapsoriasis, which he divides into three classes: (1) parapsoriasis guttata; (2) parapsoriasis lichenoides; (3) parapsoriasis in patches. He compares the cases described by Jadassohn to the first variety; those of parakeratosis variegata and lichen variegatus to the second, and his own pityriasis in patches to the third. He also speaks, in this last article, of having observed occasionally a few papules in some of the cases of pityriasis in patches.

Should it be desired to assign the cases I have here reported under the title of parapsoriasis, then Cases 1 and 2 would come in the third class (parapsoriasis in patches) and Case 3 would be assigned to the second division (parapsoriasis lichenoides).

As far as I can judge from the description of the German cases,—viz: those of Neisser,[10] Juliusberg[11] and others—it seems that the papular feature is distinct; therefore they would be classed as parapsoriasis lichenoides according to Brocq's classification. Keeping my own cases in mind to the exclusion of others, I would enumerate the main features as follows: The distribution on the trunk, and sometimes on the extremities, of variously sized, ill-defined patches varying in color from a dull pink to a light brown, the almost total absence of itching and also of all other subjective symptoms; the persistent fine scaling and the slight, if any, infiltration of the patches.

The development of the eruption is extremely slow; the integument very dry; the great majority of the lesions are macular, and the disease is very rebellious to treatment.

It is difficult to grasp the reason why so much time has been spent in theorizing as to the primary lesion, whether a macule or a papule; it does not make much material difference; the lesion could be macular at first and later become papular as the process advanced.

From the studies of these three cases I am constrained to believe that the disease is primarily macular, and not in the true sense a lichen. This opinion is sustained by the fact that, with the exception of Case 3, practically all the lesions were macular when the patients were first seen; afterward a few so-called papules were noticed, which were due partly, perhaps, to the continuous stimulating applications. This treatment irritation probably produces some slight proliferation of the horny layer in places, and also a certain degree of lichenification, which causes some of the lesions to appear slightly raised. In Case 3 the lesions are better described as maculopapular; even in this case they were very flat and the majority displayed very little infiltration when picked up between the thumb and forefinger, and inspection from an angle showed them in most instances to be flush with the normal skin.

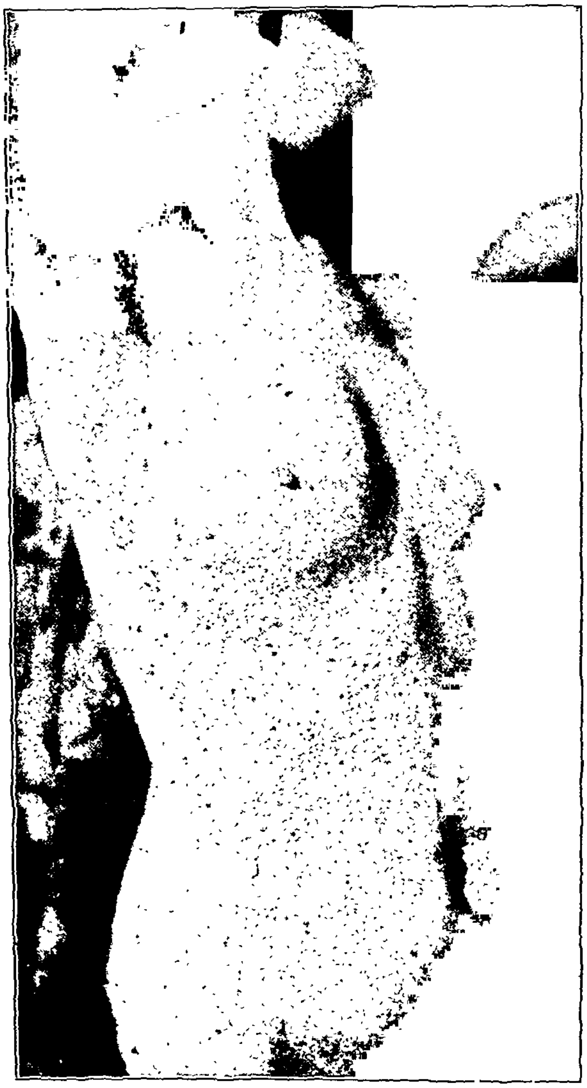

Fig. 3.—Chronic scaly erythrodermia, Case 3.

The diseases mentioned by other writers as akin to or having resemblances to this malady are psoriasis, seborrheic eczema, lichen planus, premycosis and pityriasis rubra.

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[5] Unna, Santi and Pollitzer: Monatsh. f. prakt. Dermat. x, 1890; (abstr.) Brit. Jour. Dermat., 1890.

[6] Brocq: Jour. d. pr[illegible]

[7] White, J. C.: Jour. [illegible] Dis., 1900.

[8] Fox, T. C., and Ma[illegible] of Parakeratosis Variegata, Jour. Cutan. a[illegible] Dis., 1901, xiii, 319.

[9] Brocq, L.: Parapsoriasis (Including the érythrodermies pityriasiques en plaques disséminées), Jour. Cutan. Dis., 1903, xxi, 315.

[10] Neisser, A.: Zur Frage der lichnoiden Eruptionen, Verhandl. d. iv deutsch. dermat. Kong., 1894, iv, 495.

[11] Juliusberg, F.: Arch. f. Dermat. u. Syph., 1897; Ueber die Pityriasis lichenoides chronica (psoriasiform lichenoides Exanthem), 1899, l, 359.

At first glance it seems almost absurd that the lesion in question could have points of resemblance to all the above, as an eruption that is similar to lichen planus could hardly resemble pityriasis rubra; still the disease has different phases and it is natural to compare it. It is similar to a vanishing psoriasis, and this was attentively considered when Cases 1 and 2 first presented themselves, especially in the second. It has, however, many differential features from an ordinary case of psoriasis. The lesions in these cases show no particular predilection for the knees and elbows; the scales are different in character, being finer and not lamellated; they show no bleeding points on removal; the patches are only slightly infiltrated and the scalp is not affected.

There was no resemblance to lichen planus in the first two cases, but Case 3 had some features in common—namely, the lesions were small; they were maculopapular and flat, and were surmounted by a scale. The points of difference are: the lesions do not glisten as do those of lichen planus; there is no tendency to umbilication; the color is not the same, and nowhere does any tendency to hypertrophy exist; lastly, they do not yield to the most persistent lichen treatment and there is no itching. These cases differ from seborrheic eczema in that the scales are not greasy, the distribution is very general and the scalp is not affected. According to my own experience, the patches did not in any way resemble those of premycosis; they were not so large, did not show the infiltration; and the intense itching that nearly always accompanies premycosis was absent. The long duration, in one case seven years and in another twenty, would not preclude mycosis, but would weigh a little against it, although I realize fully that this early stage of premycosis can last a very long time; having had a patient under my care in whom it existed for twenty-five years. There is also on record a case shown by Dr. Allan Jameson at the British Medical Association in 1898, which some of the members diagnosed positively as parakeratosis variegata, and which later revealed itself as mycosis fungoides.

The diagnosis from pityriasis rubra is obvious and needs no further comment.

One of the striking features, which is not mentioned by some writers and only casually by others, is the similarity to pityriasis rosea. This was more noticeable in Cases 1 and 2, but it existed in a slight degree in Case 3 in one or two of the macular lesions.

This likeness was so marked in one of the patients that the assistant clinicians were unanimous in their opinion that the case was one of pityriasis rosea. This conjectural diagnosis was made before the patient was questioned; this is our custom in the clinic, and might be termed dermatological sight-reading.

The eruption in pityriasis rosea is probably more erythematous and the patches more uniform in size and regularity, but the likeness was great enough for us, sometimes, carelessly perhaps, to speak of it as chronic pityriasis rosea.

REMARKS ON THE PATHOLOGY

The morbid changes seem, in the main, to be much like those already reported, but there are some minor differences. The mild perivascular infiltration of cells in the uppermost layer of the corium seems to be common to all; in most instances the predominating variety were lymphocytes; this is true of the cases referred to in this paper, though there was an occasional plasma cell. Other writers, however, have described both mononuclears and polynuclears, and Anthony,[4] reporting a case of parakeratosis variegata, states that the cells were mostly of the latter variety.

The basal layer in one of the sections was indistinct and blurred, being somewhat like one of White's cases. Parakeratosis existed in all the sections, but very little in Case 3, as only an occasional nucleus could be discovered; slightly more pronounced in Case 1 and quite well marked in Case 2. Wherever the parakeratosis existed the granular layer was either absent or very much diminished, as has been frequently noticed before by others.

The stratum lucidum is not constantly present; it has been reported absent in most other cases, but was distinct in Anthony's.

The histologic changes in Case 2 are comparable to one reported by Jadassohn—viz., parakeratosis, some acanthosis and emigrated leucocytes were present in both cases. These always point strongly to psoriasis, and the specimen in a few places had features which were not unlike those seen in sections of that disease. The duration of this case was twenty years, and if it were ordinary psoriasis the infiltration of the skin would be greater and the pathologic changes much more marked.

The generic titles suggested for these dermatoses are parapsoriasis (Brocq) and resistant maculopapular scaly erythrodermias (Fox and Macleod). Of the two the latter term seems to me preferable. If it is necessary to group the affections, the title at the beginning of this article might answer the purpose as well as any. Clinically there seems to be almost enough difference between parakeratosis variegata and parapsoriasis in patches to warrant classing them separately. The names for the individual cases are not particularly apt, and numerous objections can be raised. For instance: It would seem best to relegate the word parakeratosis to the laboratory and not use it as a clinical term. The word "lichen" is also rather inappropriate for an efflorescence in which the majority of the lesions are macular.

From a descriptive standpoint Brocq's title of *érythrodermie pityriasique en plaques disséminées* can not be improved on, except that it does not fit very well in American dermatology. The nomenclature is already so confusing that one hesitates to further complicate it; consequently it will be allowed to remain *in statu quo*.

One curious symptom observed in all three cases was the very noticeable and rather excessive sweating on the face, which persisted to a degree even in the cold weather. The face was never the seat of any of the patches and where the disease was present on the trunk and extremities the perspiration was either normal or diminished. This feature is unexplainable.

My thanks are due to Dr. E. C. Jagle for the work of preparing the specimens and valuable suggestions during the examination of the same; and also to Professor Fordyce, who has so kindly allowed me the privilege of the laboratory and the use of some of his material.

Note.—In addition to the references previously cited, the following may be found of interest:

Corlett and Schultz: Jour. Cutan. Dis., 1909.
Ravogli, A.: A Case of Erythema Squamosum, The Journal A. M. A., July 13, 1901, xxxvii, 109.
White, C. J.: Jour. Cutan. Dis., 1903.

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ABSTRACT OF DISCUSSION

Dr. William S. Gottheil, New York City: I think we must all admit that a new name is required for this class of eruptions, and the name is of little consequence so long as it is simple and easy to remember. I believe that para-psoriasis is a better name than chronic scaly erythrodermia. These cases are commoner, I think, than we suppose, and that would explain some of the differences of opinion that they have given rise to. One man calls his case a seborrheal eczema, another a psoriasis, and still another a pityriasis rosea. I think that para-psoriasis is perhaps the most appropriate name for this particular class of cases.

RODENT ULCER OF THE CORNEA (MOOREN'S ULCER) *

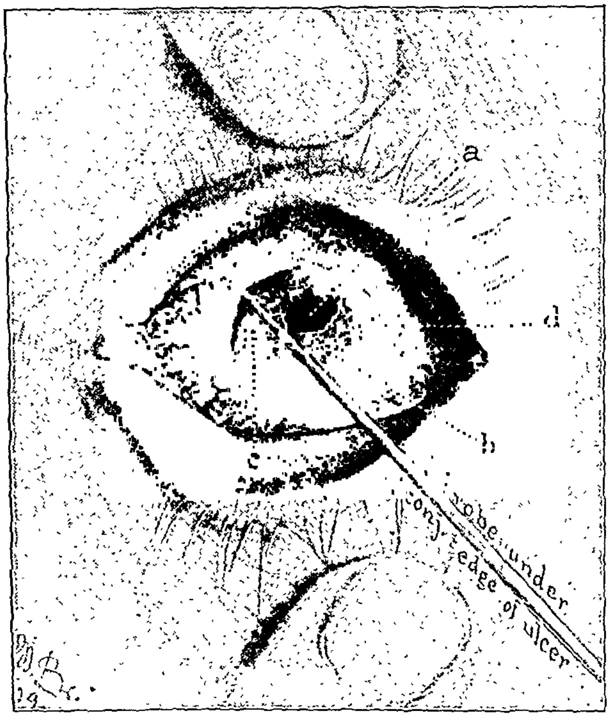
ROBERT L. RANDOLPH, M.D.
BALTIMORE

It is a matter of some surprise to me to find how few reports of cases of so-called rodent ulcer of the cornea have found their way into literature; according to Hayashi not more than thirty-five. I can not but think that this is due in many instances to the fact that the condition has not been recognized as rodent ulcer but was regarded perhaps as a marginal ulcer of the serpiginous variety and treated accordingly. That most ophthalmologists whose experience extends over a number of years have met this variety of corneal ulcer once at least is very likely and that it has not been identified as the rodent ulcer first described by Mooren is equally probable. I say first described, for it was really Mooren whose name is most closely associated with the condition, though reference to the same condition will be found in the writings of Bowman many years previously.

At first sight this form of corneal ulcer does not differ from that form which every ophthalmologist sees now and again, and which he recognizes as a marginal ulcer. Indeed I doubt whether it is possible to identify clinically a rodent ulcer in its early stages, and this uncertainty will prevail until we learn more of its etiology. If it be due to a specific bacterium (and I think it is) it would be possible to identify it at once, but from a bacteriologic point of view no conclusive light has been thrown on this variety of corneal inflammation, and we are confronted with a disease which in many respects is similar to what we now and again see in hospital practice. Even after the disease has been present for many weeks, it is more than probable that most of us would fail to realize that we were dealing with anything more than a very obstinate corneal ulcer. And yet there was in the only case which I have seen one feature at least which distinguished it from any other ulcer of the cornea which I had ever seen, and that was the deeply undermined conjunctival edge of the ulcer. The edges of marginal ulcers are always more or less undermined, but owing to the better blood supply at the conjunctival edge this edge of the ulcer is not conspicuously undermined, except probably in the case of rodent ulcer.

In the case reported here the conjunctival edge of the ulcer could be lifted up and was undermined to the extent of at least four or five millimeters from the border of the cornea. This, I believe, is peculiarly true of the rodent ulcer and it will be found in the early stages of the affection. It is well known that the corneal or progressive edge of the ulcer is always undermined to the extent of two or three millimeters, but I do not think that attention has been sufficiently called to the extensive invasion which goes on beneath the limbus, and which is often lost sight of. My attention was called to this feature in about three weeks after the patient came under my care. McNabb and others mention the possibility of the process extending under the limbus, but it seems to me that careful examinations of the conjunctival border of the ulcer should be repeatedly made, for we can hope to mitigate this condition only by addressing our remedies to those parts of the ulcer where undermining is in active progress. In my case the corneal edge was distinctly undermined and could readily be elevated and a probe passed into a cleft two millimeters in extent, while, as I have said, the conjunctival edge was undermined to twice the extent of the corneal edge.

Chronicity is an important point in the history of rodent ulcer. The average length of time is from two to ten months and occasionally the condition lasts for more than a year.



Rodent ulcer of cornea. a. The only part of the cornea which has not been attacked but which is gradually becoming hazy with approach of the ulcer. b. Area of cicatrization after ulcer has run its course. c. Ulcerative process is especially marked in this area (note undermined limbus). d. Corneal or progressive edge of ulcer, showing crescentic shape which was more marked in early history of case. This edge is also undermined.

History.—The patient (E. T. L.) whose case I report was under treatment since early in July, 1908, two months before he came to me. He was and still is a healthy looking man of 52 and has a well-marked arcus senilis on his right eye. The ulcer of his left cornea obliterated the arcus on that eye. He had never had any serious sickness. He gave a rather vague history of an injury to his left eye early in June. About this time he had a foreign body removed from his left eye by an optician and from that time his troubles with the eye commenced. He first consulted an ophthalmologist in July. All this time, however, he continued his occupation, which was that of a traveling salesman in connection with a big business concern in Baltimore. In July he returned from a trip south and, according to the oculist who then saw him, he had a marginal ulcer which occupied the outer and lower fourth of the left cornea. When I saw him in September this was still his condition, though his attending physician said that the ulcer had spread considerably since he first saw him.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Treatment and Course of Disease.—I found that the patient had been using massage with yellow ointment and irrigations of weak sublimate solution. I advised the application of pure carbolic acid, the instillation of atropin preceded by an irrigation with normal salt solution and also that he be put on tonic treatment, quinin and strychnin. This was done and with apparently no benefit, for he returned in ten days with a request from his oculist that I take charge of the case. There was then the remarkable undermining of the limbus which had escaped me at the patient's first visit ten days previously and which no doubt had been there all the time. This undermining is well shown in the accompanying drawing. I felt sure now from the superficial character of the involvement, the undermined edges, and the fact of its having been present for over three months that I was dealing with a rodent ulcer. The galvanocautery was applied and particular care was taken to pass the loop well up under the limbus and under the progressive edge of the ulcer as well. Fluorescein proved a help in bringing out the areas which were affected. There was marked improvement right away, and in three or four days new blood vessels were seen making their way over the affected part from the conjunctiva. The atropin and internal medication were of course kept up. Ten days later the eye became intensely red, the irritative symptoms broke out afresh, and several new spots appeared at the upper end of the ulcer. These spots in a few days coalesced and fused into the main ulcer. Again the cautery was applied as before and again a few days later to another point which I thought I had overlooked. Apparently this last application was of distinct benefit, for improvement continued up to the middle of October, when he had another outbreak, and I determined to try tincture of iodin. Three applications were made in one week, but there was not the slightest benefit obtained, contrary to what is usually obtained when we use iodin in the ordinary forms of marginal ulcers of the cornea. Iodin is my main reliance in corneal ulcers in this situation. Between November 1 and Christmas two more applications of the galvanocautery were made and always with improvement, but this lasted for only a few days. At the last application improvement was so pronounced that I promised the patient his Christmas dinner at home. Much of the redness of the eyeball had disappeared and much of the cornea was clear. The patient left the hospital to return home, where he spent his Christmas with a black patch over the eye. The next day the process started up with unusual vigor and I concluded that the galvanocautery had been given a fair trial. About this time I picked up a communication by Risley, who had seen benefit follow the administration of thyroid extract in obscure cases of keratitis. The patient took three grains of this three times daily, but in a week had to leave it off, as it produced diarrhea even when smaller doses were given. This is a not infrequent occurrence during the administration of the so-called thyroid treatment. I then tried the application of trichloracetic acid, and this, I am sure, made the condition worse. Only one application of this was made. It was then suggested that I try a light compress bandage and a boric acid ointment between the lids. This was faithfully tested for ten days but without any benefit. A great deal of the time in the early history of the case I had tried the instillation of chlorin water several times daily, but I could never see that it did the slightest good. The last measure tried was recourse to tincture of iodin and a light immobilizing bandage, but the result of all this was the infliction of a great deal of suffering without the slightest improvement. The iodin was applied six times over a period of two weeks. What seemed peculiar was the fact that none of the many remedies employed seemed either to accelerate or to retard the process, which went on slowly and surely to take in the greater part of the cornea. I might except trichloracetic acid, which probably did harm. Soon after Christmas a very light grade of plastic iritis developed, which was easily controlled. There have been times when the ciliary neuralgia has been intense, but the patient has slept and eaten well and, generally speaking, has been comfortable. The only measure which seemed to promise recovery was the galvanocautery, and more than once I thought the chances fair, but no substantial, certainly no permanent advantage over the process was gained, and I would return to the patient's room the next day to find his eye in a blooming state of inflammation. It seems strange that Fuchs should give such a favorable prognosis in this class of cases if the galvanocautery is used, when in by far the majority of cases reported the cornea was ultimately covered by a leucoma in spite of this treatment in the hands of skilful observers. At the present writing the patient's cornea is gray all over, with the characteristic anesthesia of most of the surface and he counts fingers at one foot.

It may be interesting to note the following data in reference to the frequency of rodent ulcer. Hayashi saw rodent ulcer 4 times in 11,400 eye cases. Mooren in twenty-five years saw the affection 20 times in 108,417 cases; Jany once in 66,000 cases; Vossius 3 times in 25,000 cases; Uhthoff 3 times in 10,000 cases; Hillemann failed to see the disease in 11,000 cases in the eye clinic in Bonn, but observed it 3 times in 7,000 cases in Utrecht. Asayama met with rodent ulcer 4 times among 6,780 eye cases; Kiribuchi saw it 6 times in 11,000 cases and Ogiu saw it 6 times in 8,900 cases. The disease would seem to be somewhat more frequent in Japan.

It is a mistake to think that the affection is a painless one, for it is characterized by frequent attacks of suffering and irritative symptoms generally. The ulcer shows a decided tendency to keep close to and run parallel to the limbus of the cornea and one of its peculiarities is its tendency to clear up and look as though it would be completely well in a few days, when a fresh outbreak would land the patient back at a point which was thought to have been left far behind days ago. The progressive edge of the ulcer at this time as Nettleship describes it, "forms a narrow sinuous whitish band level with the cornea of which the two ends are in advance of the centre, so that the diseased surface at this stage is roughly crescentic and sometimes semilunar." Behind this edge of course there is no epithelial covering and here the fluorescein stain takes well, and further back comes that part where the process has spent itself and the cornea has been left scarred, and it takes poorly the fluorescein stain. In most cases the disease dies out after the entire cornea has been involved, but according to McNabb recurrences take place in exceptional instances and the ulceration reappears to penetrate deeply into the cornea and expose Descemet's, membrane, or even to penetrate through it.

Rodent ulcer as a rule is seen in individuals over forty, though Pflüger, Handmann and Grossmann report cases in younger patients. It has probably never been seen in children. Men are more prone to it than women. Of the 36 cases, reports of which are found in literature, 25 were in men and 11 were in women. It is not infrequently found in both eyes. Hillemann, who has made an analysis of the subject, found that it occurred eleven times in both eyes, though I do not believe it has ever been observed in both eyes at the same time.

We are completely in the dark as to its etiology. There are those who maintain that disturbances in the sensitive nerve endings are largely responsible. Among these are Ahlström, who noticed anesthesia of the cornea in its entire extent, and Vossius, who in three of his cases observed somewhat similar phenomena. On the other hand there are others who have failed to observe this condition. I have thought at times that there was some anesthesia, but I could never get any convincing evidence of this condition except in those parts in which the nerve endings had probably been destroyed. Ahlström holds that it is a kind of progressive necrosis of the superficial subepithelial corneal layers and of nerve origin. Kiribuchi touches on its probable systemic origin as evidenced by its appearance not infrequently in both eyes. Asayama found in four cases evidences in the stools of intestinal parasites, and thinks that there may be some causal connection. This possibility was excluded in my case. A study of the published cases throws no satisfactory light on the etiology of this rare and intractable disease, neither does it offer any remedy which carries with it more than doubtful value. I am inclined to the view that the disease is of bacterial origin.

I have almost made up my mind that my patient has done better since all aggressive treatment has been abandoned, especially in the way of irritating applications. If the galvanocautery had been applied a month or six weeks earlier I believe that the story would have been different. When one meets a corneal ulcer along the margin, careful examination should be made to ascertain whether the limbus edge of the ulcer is deeply undermined. If so the cautery should be applied at once, and it might be well to cut away with a delicate pair of scissors the overhanging edges of the ulcer so that parts underneath can be readily reached. If the disease shows no substantial improvement at the end of two months, I think it best to stop all irritating applications and simply continue with atropin and salt solution irrigations and tonic treatment. I am not at all satisfied that repeated applications of the galvanocautery are advisable, such applications often being followed by a denser opacity than is produced by the actual ulceration. McNabb states that some of these patients are left with a vision of from 1/6th to 1/4th.

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ABSTRACT OF DISCUSSION

Dr. George E. de Schweinitz, Philadelphia: Dr. Randolph kindly permitted me to examine the patient whose case history he has just described, and I can do no more than confirm his findings and observations. Once or twice in the last fifteen years I have seen in the wards of the Philadelphia General Hospital ulcers of the cornea in old persons, which in general terms resembled the chronic serpiginous ulcer of Nettleship, but in none of these cases has the undermining of the conjunctival ulcer been so conspicuous a sign as it was in Dr. Randolph's patient, a sign which, as he points out, should be regarded as the chief characteristic of this affection. In other respects the resemblance was close and, so far as I can remember (I have no accurate notes at hand), the results of treatment were conspicuously unsatisfactory. It is always doubtless possible to make a diagnosis of rodent ulcer of the cornea by the chronicity of the process and especially by the undermined corneal edge of the ulcer and the decided and extensive undermining of its conjunctival border. Perhaps the lesion for which it might most readily be mistaken is that corneal disease to which Fuchs has given the name *keratitis marginalis superficialis*, also an affection usually seen in elderly persons, but differing from Mooren's ulcer in that the lesion is more superficial, that the gray line which frames the corneal border is not undermined, that the conjunctival edge is not specially undermined, and that the process never proceeds to the center of the cornea. Like Mooren's ulcer, it is chronic in type and subject to many relapses and intermissions. (Here the case history of the patient, with ulceration of the cornea, with final loss of the eye, bearing resemblance in some respects to *keratitis marginalis superficialis*, and in other respects to Mooren's ulcer was recited. The exciting cause of the trouble was attributed by the patient to exposure to *x*-rays.)

Microscopic examination of eyes the subject of rodent ulcer has thrown no light on the etiologic factor, and Andrade's rodlike bacillus which he found has not, I believe, been confirmed. Parsons has examined several cases of Mooren's ulcer, but failed to find this bacillus in any other specific micro-organism. Fuch's statement that destruction of the margin of the ulcer with the actual cautery will in most cases result in a cure, seems to me too optimistic. With nitric acid, recommended by Jackson, I have had no experience. I have thought that should the opportunity present itself, after cutting away the conjunctival edge of the ulcer and thoroughly applying the actual cautery, I would cover the cornea with a conjunctival flap after the manner of Kuhnt, or entirely, according to the De Wecker method of managing large wounds of the cornea. Such a procedure could at least do no harm; it might do good.

Dr. Barton Pitts, St. Joseph, Mo.: In my experience in the treatment of all classes of ulcers, there is one sovereign remedy which I have not heard mentioned. When atropin, which is the sheet anchor of the therapeutic agents, fails, and the galvanocautery is resorted to, which comes next, my experience is that the actual cautery far surpasses the galvanocautery. I use a strabismus hook and an alcohol lamp and get a decidedly more beneficial effect, and I account for this on the ground that it is not so intense. I have tried the galvanocautery and it cuts like a knife. In these ulcers of the cornea, or rodent ulcers, which I think are simply another class of serpiginous ulcers, with the actual heat, one gets a more decided and beneficial reaction. I do not put much confidence in the galvanocautery; the sovereign remedy in my opinion is paracentesis. I do not think I ever lost an eye entirely in which paracentesis was resorted to, particularly if used early. I know I have never regretted the procedure, but I have regretted postponing it. With a free corneal incision through the base of the ulcer the reaction is immediate. Not simply in the mild form, but even in hopeless, purulent cases, and in cases of gonorrheal origin, I have often obtained a reasonable amount of vision.

Dr. J. A. Donovan, Butte, Mont.: Recently I had a patient with ulcer who had been treated by an ophthalmic surgeon for two months before he was referred to me. The ulcer was about 2 or 3 mm. in width all around the edge of and completely encircling the cornea. When the man first came, I used the electrocautery according to the method described in a recent number of *Ophthalmology* and checked it. For two months or so it remained stationary, but the last two weeks rapidly increased in size. I had to leave town and I gave my assistant instructions to use nitric acid in case it was not checked. For some time back I had been using the red iodid of mercury ointment and used 1 to 5,000 strength with him, instructing the assistant to increase the strength; when I got back my assistant had got up to 1 to 2,000. That put the ulcer under control for a little while, and not having the electrocautery at hand, I then used the heated probe. I found a difference, but I cauterized a second time and still did not control it. I kept on using the 1 to 2,000 ointment of mercuric iodid as a sort of forlorn hope and gave an almost absolutely bad prognosis. The ulcer was spreading in from all sides. In the course of three weeks I could see a little vessel growing in from the nasal side, and a day or two before leaving home the ulcer was checked, leaving in the center 3 mm. of clear cornea, and I give the credit to the mercuric iodid ointment. I generally use 1 to 5.000, but with this patient used 1 to 2,000 four times a day. It caused severe pain twice after having been used several days, but by omitting it once or twice it was resumed without further trouble.

Dr. H. Gifford, Omaha: Mooren's ulcer is very rare. I have only seen one case. A man had been struck with the tail of a cow and came to me after the ulcer had been going on for a couple of weeks. It looked like a mild, simple ulcer, involving about the lower third of the cornea, but there was very little reaction; it did not get deep, and I thought it was going to be easy to cure with good sight. To my surprise, it kept on until it involved nearly the whole cornea. Then I found that the conjunctiva was undermined for about 3/32 of an inch beyond the limbus. I immediately cut off all of the loose conjunctiva and then cauterized very freely clear down to the sclera all the cornea affected and all the area denuded. From that time on the ulcer made no further progress. Therefore, I feel like urging you not to run the cautery under the pocket, but to cut the conjunctiva away as Dr. de Schweinitz and Dr. Randolph have suggested, and then use the cautery freely. As to whether Dr. de Schweinitz's idea of covering the cornea with the conjunctiva would pan out I am not certain. Here are germs which show a particular predilection for growing under the conjunctiva, and if you do not destroy them all they may keep on growing under the flap, if you do not get them out. That is the great objection to covering the cornea with conjunctiva in all ulcerative cornea processes. It may cure, but if it does not, you can not tell what is going on.

Dr. R. L. Randolph, Baltimore: A study of the literature of rodent ulcer establishes conclusively the fact that the disease is exceedingly rare, and yet one might infer from what Dr. Pitts has said that he had encountered this affection not infrequently; but in this connection I would like to say that until it is recognized that rodent ulcer is a distinct clinical entity, nothing but confusion will arise as to the diagnosis. I forgot to state that the actual cautery was employed in the form of a platinum loop heated in a Bunsen burner, but with no apparent benefit. Paracentesis was not employed, as I have not been impressed with the value of this operation in corneal inflammations in which I have seen it tried by others, and I would call attention to the fact that paracentesis has been employed by others in this form of corneal ulcer, but with negative result. When the eye was enucleated nearly two months later, the man had light perception and had been troubled with periodic attacks of redness and pain.

PROSTATIC CANCER

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Little of practical value appears in the literature before Oraison's report, in 1903, of twenty-three cases. Ten, or 43 per cent., of the patients were well after four years, 4 died from the operation, and 3 had recurrence. Young, in the following year, gave his report of 6 cases of total extirpation, resulting in 3 patients well after eleven and twelve months, respectively. Two died as a result of the operation and one following litholapaxy nine months later. A small area of cancerous tissue was found, however, in the pelvis at autopsy. Watson and Cunningham cite Fuller and Czerny's results in two cases of enucleation. Each patient had recurrence, but lived for eleven and nine months, respectively. From a consideration of these results they assert that we are not justified in attempting the operation of extirpation as practiced by Young. Previous articles have been résumés, as a rule, of delayed operations, and these, coming late in the disease, called for extensive dissections and a necessarily high mortality.

Walker places the frequency of prostatic cancer at about 16.5 per cent., while Young's statistics denote one in seven of all cases of enlargement. Figures differ widely for cancer, not only with different surgeons, but with different geographical as well as anatomic areas. It is very apparent, however, that malignancy dominates many of our cases of prostatic enlargement. There will be a great increase in the future, when more who operate for senile hypertrophy subject the tissue removed to a more careful microscopic examination, as cancer here is, at its inception, not easily discernible, necessitating a most careful search in some cases of all parts of the gland. This same care should be exercised at all necropsies of male subjects past middle life.

The growth proceeds more slowly than in other organs, as the lymph supply is meager; further, it is a disease of late adult life, when the lymph circulation at its best is carried on but poorly. The degree of its malignancy is not extreme while it remains confined, though it becomes rapidly fatal after the seat of the disease has been changed to the bones, or, as is often the case, to the internal organs. No one has as yet explained with satisfaction the pathologic significance of the osseous metastases common to carcinoma of the thyroid, the mammary and prostatic glands. Hawley accepts von Eiselsberg's theory for carcinoma of the thyroid, that the veins are the source of all dissemination for cancer of the prostate as well, and to substantiate his belief states that the prostatic veins are often the seat of phleboliths.

The adverse criticism applied in the past to operative procedures for prostatic cancer have not been wholly unjustified because of the lack of attempts at early diagnosis, or recognizing the difficulty in this to appreciate the fact that the large percentage of senile hypertrophies which become malignant justified earlier operative interference.

The earliest symptoms of prostatic cancer are identical with those of senile hypertrophy. It is very apparent that those cases with an infiltration predominating from the first have certain characteristics evidenced by cystoscopic examination of the bladder base and digital examination of the seminal vesicles. This, however, is after the invasion has gone beyond the capsule and can hardly be regarded as early in the disease. How often the malignant process is grafted on hypertrophy we do not know, but, considering that senile hypertrophy is found in about one-third of all men past sixty, the number of cases reported undergoing degeneration in the past would indicate a large ratio between the two. Whether malignancy is suspected or not, the hemolytic action of the blood should be studied in all cases; although not accurate, according to Crile, in over 85 per cent., it should be carried out as a routine procedure. The clinician is dependent on microscopic investigation for an exact differential diagnosis, and this examination should be made at the time of operation by means of the frozen section. Under certain conditions, when an extensive pathologic examination can not be made immediately, or a more thorough subsequent search reveals cancer, the operation may be performed at two sittings. In those cases in which the lobes enucleate easily with the finger, if a malignant process exists, it will be confined to the interior of the lobe or lobes and the necessity of a more radical operation will not be apparent. This responsibility, however, must rest with the surgeon at the time of operation. Just as we have come to know the danger of leaving benign growths of the mammæ, so must the profession regard the prostate, for innocent enlargement does not always remain benign and there is little satisfaction in the oft-repeated statement, "a patient bears catheter life well" if his forbearance brings him to a state of cachexia.

A lowering of the high mortality of the past will not come from the perfection of operative procedures alone, but through the knowledge of the efficacy of early intervention. Surgical work is of as little avail on the prostate as on the mammary gland, if we wait for conclusive symptoms before we interfere.

Sufficient time has not elapsed for me to report final results in the following series of cases; suffice it to say that the death of the patient whose pathologic report is No. 4 was the only hospital death. The chief object of the paper being to report the prevalence of cancer among patients coming to the University Hospital for prostatic enlargement, the series on which this paper is based began with the opening of the college year in September, and numbers 20 cases, 15 of which were simple hypertrophies incident to old age, while the remaining 5 were carcinomas. I am indebted to Dr. A. S. Warthin for the following pathologic description of these 5 cases.

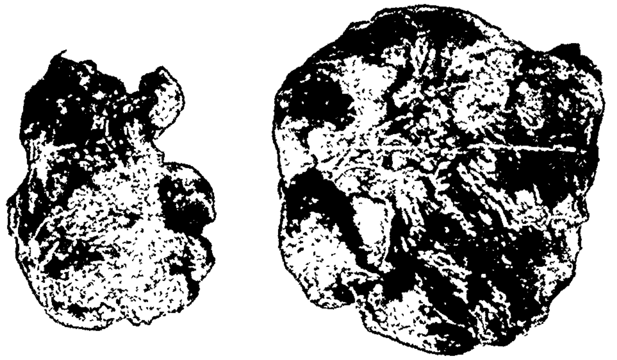
Case 1.—The patient was 71 years old: was operated on Dec. 5, 1908. In the glands removed the normal prostatic tissue was largely replaced by dense fibrous connective tissue containing small atypical islands of cells, many of these retaining a gland arrangement. The epithelial cells of this gland space were very atypical and there was definite infiltration of the surrounding connective tissue. Portions of the gland remaining showed epithelial hyperplasia. In the connective tissue there were many corpora amyplacea apparently embodied in the connective tissue but surrounded by a layer of atrophic cells. The connective tissue was hyperplastic throughout; showed many areas of small round-cell infiltration, and there was a new formation of blood vessels. Diagnosis: adenocarcinoma.

Case 2.—The patient was 53 years old, and was operated on Jan. 21, 1909. Microscopic examination of the specimen removed showed very little normal gland structure left, the greater part of the gland being replaced by carcinoma tissue showing a dense stroma infiltrated with very small spheroidal cells of epithelial type. In some areas there was slight preservation of a gland structure. Large prostatic ducts were seen scattered throughout the gland, and a few small areas of gland tissue showing dilated acini, filled with corpora amylacea, were present. There was distinct evidence of infiltration outside the capsule. Microscopic diagnosis: Carcinoma, partly of the type of scirrhosum, partly of the type of an adenocarcinoma.

This is an interesting case from the fact that the patient showed vertebral secondary lesions before leaving the hospital. He had catheterized himself twice daily for two years, but as he had neither cystitis nor the pain and inconvenience which accompany it, his previous decision has been to let well enough alone. The second afternoon following his operation he had a violent chill and his temperature rose quickly to 104 F. His pulse, at first thready and rapid, became imperceptible at the wrist. He was *in extremis* for eight hours, but rallied after the intravenous injection of 72 ounces of normal saline solution and 10 ounces subcutaneously into each breast. The extent of the infiltration into the bladder wall precluded any attempt to remove it completely, and only palliative measures could be employed. Although the growth was large it had influenced a powerful constitution but little, so that the loss of a small amount of blood at the time of operation could not account for his postoperative symptoms, which I think must be explained from the standpoint of reflex irritation to the central nervous system. The osseous complication manifested itself in a bony prominence at the ninth and tenth dorsal segments.

Case 3.—The patient, aged 56, was operated on Jan. 5, 1909. The prostate showed marked glandular hyperplasia with papilliferous ingrowth into the dilated glands and an almost complete loss of normal structure. Corpora amylacea were present in some of the dilated acini. The stroma was greatly increased and throughout the stroma there were atypical nests of epithelial cells preserving slightly a gland type. These new-formed glands were, however, wholly atypical and presented the picture of an adenocarcinoma. There were large areas of large-celled infiltration scattered throughout the tissue. Diagnosis: Adenocarcinoma.

Case 4.—The patient, aged 78, was operated on Jan. 28, 1909. This operation, like the other four, was by the perineal route. Two very large lateral lobes (see illustration) were easily enucleated with the finger. The right lobe was much the larger, measuring 3½ inches by its greatest diameter. After careful search the median lobe could not be found, and it was decided that it came away with the left lobe. Either this conclusion was erroneous or a nodule of the other lobes was left behind, involved secondarily in a malignant process, which was overlooked at the time of operation. The portion of prostate removed at operation showed only the picture of a marked glandular and cystic hyperplasia. The portion of the prostate examined at autopsy showed, on microscopic examination, an infiltration of squamous-celled carcinoma extending into the prostate and partly replacing it, the growth being apparently along the ducts. It was impossible to say whether this carcinoma was primary in the bladder or in the prostate. From the character of the cells it was more probable that it was a primary bladder or urethral carcinoma rather than primary in the prostate. This case is interesting in showing the difficulty of a reliable diagnosis in those glands having first a senile hypertrophy followed by a malignant process and further a secondary involvement of glandular tissue from the bladder or the urethra. This patient died eighteen days after operation from purulent cystitis and chronic nephritis.



Lateral lobes of the prostate, enucleated as described in Case 4; right lobe on right in illustration.

Case 5.—The patient, aged 68, was operated on April 9, 1909. There was marked chronic inflammation, fibroid hyperplasia and slight atypical changes in a few glands. The specimen was perhaps beginning carcinoma. Suspicious.

The number of extirpations reported is too small to establish the superiority of this method as a conservative measure over that of enucleation. It must also be admitted that the latter can be regarded as only a palliative measure when the infiltration has invaded the capsule, but unless we can report cures by extirpation, or at least prolong life in a certain number of instances, we must confine ourselves in the future to palliation. To admit this seems hardly to conform to progressive surgery, and I think extirpation must be the operation of choice in selected cases of capsular invasion.

Goodspeed Building.

Stenosis of Aorta in the Young Free from Rheumatism.—L. Gallavardin reports three cases, and refers to others confirming the existence of a form of stenosis of the aorta, not congenital and not due to rheumatism or atheroma. This fourth variety of aortic stenosis occurs in the young, generally in a pure form, and the tolerance for it is remarkable. Its origin is obscure, but probably it is acquired, a relic of some subacute or chronic endocarditis in childhood or adolescence, of unknown cause. In one of his cases the stenosis was an accidental discovery at the age of 22 and seemed to cause no disturbance. In the second case, the stenosis, accidentally noticed at 20, caused no disturbance until 30, when functional symptoms developed, proving fatal. The same history applies also to the third case, discovery at 20, with gradual development of functional disturbances, but still mild at 31. His article is published in the *Lyon Médical*, Jan. 10, 1909.

THE APPEARANCE OF PELLAGRA IN THE UNITED STATES *

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HISTORY OF THE DISEASE

It is probable that pellagra existed for many years in Europe before its recognition as a distinct disease. For many years it was considered an unusual manifestation of some other disease such as scurvy or leprosy. The first indication of the disease in literature was made by Ramazzini, who called it *mal del padrone*. In 1730 Gaspard Casal, a physician of the Asturias, described pellagra under the name *lepra asturiensis*. This name is accounted for by the fact that leprosy was at that time prevalent in the Asturias and Casal considered pellagra a manifestation of leprosy. Another author accredits the name *lepra scorbutica* to Casal. Soon after this it was noted in Galatia, and somewhat later in Castile, Rome and Aragon. Among the people it was variously designated as *mal de la rosa, mal del sole*, or *mal de la misera*. About 1750 the northern provinces of Italy, chiefly in the neighborhood of the Lago Maggiore, became its chief seat and seemed to furnish a much more favorable field for its extension, and, while the disease was still present in the lower Spanish provinces, it never made the same headway there.

Frapolli was the first to apply the name "pellagra" (Italian *pelle agra*—rough skin). This was about 1771. Frapolli asserted that the disease pellarella, which had been known for many years, was identical with pellagra, and that it was present before the introduction of Indian corn from America. Contemporaneously with Frapolli the disease was described by Odoardi in Venetia and called by him *scorbutus alpinus*. Somewhat later Puyati did important work in showing that all these descriptions and names were for one and the same disease—pellagra.

By 1784 the disease had reached such proportions and the people had become so aroused that the Joseph II Pellagra Asylum was established in Legnano under royal authority and the elder Strombio placed in charge of it. Strombio's work was of the greatest importance and a decided advance in the study of the disease.

By the close of the eighteenth century pellagra had extended into Liguria and Piedmont. In 1818 Hamea, the elder, described it under the name *mal de la teste*, because occurring in the neighborhood of Teste, and it was at this time that the people bestowed the appropriate name *mal de la misera*. It was also known as *dartres malignes, mal de sainte-Rose, mal de la sainte-Marie* and numerous other names of similar character.

Roumania, which is now a stronghold for pellagra, had no recorded case until 1810. This date is associated with the introduction of Indian corn from Italy in coastwise vessels. In 1836 Varnow described it in his inaugural dissertation, and in 1858 Julius Theodori did likewise. The people knew the disease by the name of *Buba Tranjilar*.

In 1826 Marchand recorded the appearance of pellagra in the southern provinces of France, especially in the rural districts, in the Gironde, in the Pyrenees, and in the Haut-Garonne and the Aude. Recently in these districts it has been greatly reduced, presumably because the corn culture has largely given place to the cultivation of other grain for which the soil is better suited.

In more recent years Bouchard described the disease in Mexico. It has occurred in Brazil, Argentine Republic, Uruguay, and also in Africa. There have been sporadic cases reported from the Tyrol, Servia, Bulgaria, Greece, Asia Minor, and one case from England. In the sixties Gray of New York and De Wolfe of Nova Scotia reported sporadic cases, but the correctness of the diagnosis was questioned.

Pellagra has without doubt existed in this country for many years, but the appearance must necessarily have been sporadic, for no death-dealing pestilence such as the acute pellagra now so prevalent in the southern states could have been long overlooked.

In 1883 Sherwell reported a case in New York. The patient was a Genoese sailor.

In 1902 Harris of Georgia reported a case simulating pellagra in which he found abundant hookworms. From the description the case must have been well-defined pellagra.

We are indebted to G. H. Searcy of Alabama for the first positive report. He recorded an epidemic of 88 cases occurring in the State Hospital for Colored Insane at Mount Vernon. Of this number 57 patients died. In 1907 J. T. Searcy reported 9 cases from the Bryce Hospital in Alabama. T. C. Merrill in 1907 reported a sporadic case from Texas. Recently, before the medical section of the American Medical Association, R. H. Bellamy reported ten cases seen by him in Wilmington. Bellamy and J. B. Wright of Lincolnton were the first to recognize the disease in North Carolina, and did so before the appearance of Searcy's paper.

Moore has recently reported a case from Augusta, Georgia. Babcock's report to the South Carolina Board of Health aroused much interest in the matter. He described twelve typical cases.

At the 1907 session of the American Medical Association I reported a series of cases under the title of "Symmetrical Gangrene of the Skin," not recognizing their identity with pellagra. I suspected that malaria played a part in the causation of the skin lesion.

In Europe at the present time the chief seats of the disease are northern and central Italy and Roumania. The disease is endemic between 42 and 46 degrees north latitude, 11 degrees west and 26 degrees east longitude of Paris. Several small foci are not included in this area.

In 1879 the number of cases in Italy was 97,855. About this time in Venetia among 10,000 deaths 500 were due to pellagra. Since 1881 the number has declined materially, supposedly owing to the strenuous efforts on the part of the government in the more careful inspection of Indian corn and in the improvement of the general hygienic conditions. Next to Venetia stands Lombardy, with 300 deaths, then Emilia, with 200 deaths. Piedmont, Umbria, and Tuscany attribute over 5 per cent. of all deaths to pellagra. Neusser asserted that in 1886 in Venice, with a population of 36,588 natives, there were 1,086 cases of pellagra.

In Roumania in 1885 there were 10,626 cases; in 1886, 19,797 cases out of a population of 5,300,000. In 1892 there were 4,500 cases, in 1898 21,272 cases. Triller says that in 1906 in Roumania there were 30,000 pellagrins. From 1893 to 1898 Sandwith reported 500 cases at the Kase el Ainy Hospital in Cairo. In Algiers the disease is well distributed. Triller's idea of the extent of the disease is amazing. He states that in certain parts of Italy in 1906 from 30 to 50 per cent. of the population were affected: that in 1899 the number of cases in all Italy reached 73,000, which was more than 10 per 1,000 of the rural population. Tuczek asserted that in 1884 there were 10,000 pellagrins in Italian institutions.

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* Read by invitation before the College of Physicians of Philadelphia.

Pellagra has extended with great rapidity throughout the south during the past few years. It has been reported from North Carolina, South Carolina, Georgia. Alabama and Texas. I have been able to find reports of 200 cases. Of this number 88 are from the above-mentioned epidemic reported by Searcy in Alabama, 25 are at present under the care of J. W. Babcock at the State Hospital for the Insane in Columbia, S. C.; 12 were reported by McCampbell from the Western North Carolina Hospital for the Insane and 3 from the North Carolina State Hospital for the Insane under the care of J. H. McKee. In all 65 cases have been recognized in North Carolina; of these, 25 have occurred in New Hanover county, with a population of about 40,000.

The disease appears essentially in two forms. In one, the chronic, we have the typical picture described by the Italians: symmetrical erythema, especially of the exposed portions of the body, which appears usually in the spring associated with stomatitis, diarrhea, often some gastric disturbances, and followed by cord symptoms of various kinds, and finally by mental disturbances of varying degree and cachexia. As summer advances the symptoms usually disappear, only to reappear with the following spring. With each recurrence the impression on the nervous system becomes more indelible, the cachexia more marked, and the skin more atrophic and discolored. The average duration of these cases in Italy is five years, though not infrequently the duration is twenty years. One of Tuczek's cases was diagnosed as pellagra in 1851 and the patient died of bronchopneumonia in 1887.

REPORTS OF CASES

The cases here described are illustrative of previously unreported cases, all of which came under my personal observation in North Carolina.

Case 1.—(Dr. Thomas M. Green's case).—*Patient.*—Mrs. W., aged 34. Nothing of note in her family or early personal history except malaria. In the spring of 1906 she suffered with indigestion and diarrhea. One month after the occurrence of these disturbances an erythema appeared on the backs of her hands, around both eyes, and on the back of the neck which much resembled sunburn. During the summer her condition became improved. In the spring of 1907 she suffered a recurrence similar to what she had had in 1906.

Examination.—In May, 1908, her condition was as follows: A poorly nourished, cachectic woman appearing much older than her real age. Situated on her forehead were two areas of desquamating erythema, symmetrical in position, shape and size, between which was a vertical strip of normal skin. Lesions of like character surrounded both eyes. On the upper lids the lesions were more recent and were covered with crusts with a weeping surface beneath, extending into the anterior nares. The lesions were present below the eyes. There was considerable brownish pigmentation indicating their greater age. On the backs of both hands extending from the finger-nails to the middle of the forearm there existed the moist lesions which were covered with crusts. Over the knuckles and the tip of the styloid the condition was exaggerated, the surface being entirely raw. The lesion was present on the anterior surface and the palms and like the posterior except that the skin of the palms was simply erythematous with exfoliation. Near the margins of the arm lesions there was considerable brownish pigmentation. On the back of the neck was a much older lesion which had caused a tawny discoloration, which posteriorly was about two inches in width but became narrowed as it extended anteriorly. From the two sides the lesion lacked two inches of meeting in front, forming a sort of collar. The labia were affected with a moist lesion. The patient had had an obstinate diarrhea and stomatitis. Physical examination was negative. The urine contained a small amount of albumin and granular casts. The blood showed a simple anemia of moderate degree and no leucocytosis. The differential leucocyte count showed no abnormal variations.

Course of Disease.—When first seen this patient presented the picture of profound melancholia. As her condition became worse her mental state changed to one of wildest mania, making it necessary to restrain her forcibly to prevent her from leaving her bed. She never spoke, but made incoherent cries and presented the spectacle of great fear. She refused nourishment when it was offered but would take it if it were left at her side. Her whole body was in a condition of tonic spasm. In her mania the crusts had been rubbed off from the diseased areas and the bleeding surfaces made her a loathsome patient. She died about two weeks after her admission to the hospital.

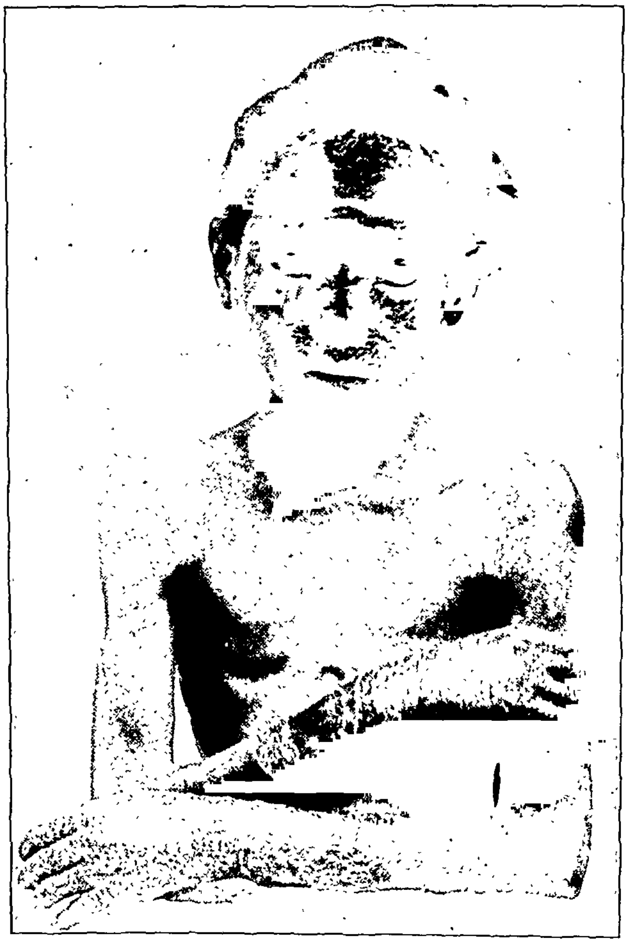

Fig. 1.—Patient 6: pellagrous lesions on face and hands.

Autopsy.—There were general fatty changes in the liver with slight increase in connective tissue around the blood vessels. There was also a slight round-cell infiltration. The capsule was thickened. The kidneys showed moderately advanced interstitial changes. The spleen and adrenals were negative. The changes in the cord were inconsiderable and indefinite save for obliteration of the central canal. The case was not sufficiently chronic to have produced very characteristic nervous changes.

Case 2.—(Dr. J. B. Wright's case, Lincolnton, N. C.).—X., female, white, aged 11. This patient belonged to the better class. The course of the disease was typical except that she had four attacks in six years, dying in the fourth when 17 years of age. The four attacks began each time in March.

The erythematous recurrences of pellagra usually occur yearly and almost invariably in the spring. One of my earlier cases presented an interesting deviation from this rule.

CASE 3.—*Patient.*—A. R., white, married, aged 46, a grocer. His family and previous history were both negative. He was a magnificent specimen of vigorous, robust manhood. The condition was ushered in with high fever without prodrome—probably an attack of malaria—followed by a profuse sweat and apparent recovery. One week later the patient's strange actions attracted his wife's attention. He would ring his own door-bell and appeared dazed, making many absurd mistakes in his business. This was followed by a general apathy. He suffered from no delusions or hallucinations and there were no *sudden outbursts. After six months there appeared, in June,* 1905, two spots of erythema on the backs of his hands. He suffered at this time from diarrhea and had no control over his bowel or bladder. He would lie quietly in bed. His speech was slow and hesitating and his gait unsteady. His habits were most untidy. The erythematous areas, which were of the dry variety, cleared up and after desquamation the skin was soft and smooth. The patient's mental condition, however, did not improve. In October, 1905, he was admitted to the James Walker Memorial Hospital in Wilmington, N. C.

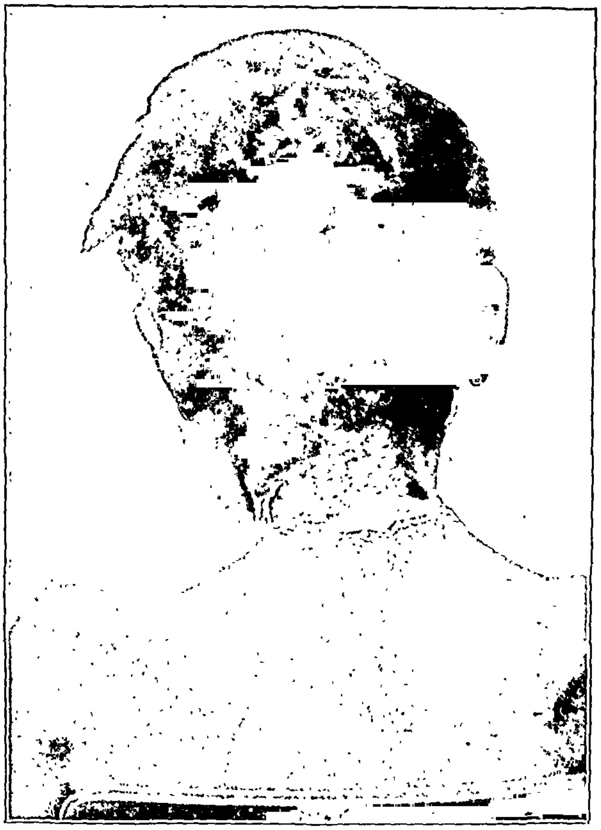
Fig. 2.—Patient 6; pellagrous lesions on back of neck.

Examination.—At this time the erythema had reappeared and extended from the ends of his fingers posteriorly to two inches above the wrist joint. The lines of demarcation on the two hands were symmetrical in the most minute detail. There was also a lesion on the external surface of the right leg. This lesion involved the lower third of the lower leg and the external surface of the foot. It had caused considerable destruction of the skin. There was a corresponding lesion of smaller size and of the dry variety on the left leg.

Course of Disease.—This patient's blood presented a remarkable condition. For three weeks the blood was loaded with tertian malarial parasites, and a carefully kept chart showed no rise of temperature. At the end of this time the temperature suddenly rose to 105 and the blood showed the preponderance of quartan parasites. From that time his temperature chart showed remarkable variations and the blood showed the preponderance of first one variety of parasites and then another. In the spring of 1906 this patient had his third attack and died in an epileptiform seizure.

From the beginning a case may be classified as acute or chronic without difficulty. Here is a typical case:

CASE 4.—*Patient.*—D. J., female, colored, aged 21, a field hand, was troubled in February, 1908, with a bloody diarrhea, indigestion, globus hystericus, and leucorrhea. After three months the erythema appeared in the "snuff-box" of the right hand. This spot desquamated before the corresponding lesion of the left hand appeared. In June, 1908, she was admitted to the James Walker Memorial Hospital.

Examination.—On the backs of both hands from the finger tips upward was found a dry exfoliating lesion of the skin which was darker than the normal. The upper margins of the two lesions made oblique lines extending from a point at the middle of the forearm internally downward and outward to within one inch of the wrist joint. The same line was carried out anteriorly and the lesion in this respect was unusual. There were small, round symmetrical areas on the upper lids near the inner canthi and at the outer canthi smaller areas. Small areas were found at the angles of the mouth. On the tops of the feet over the ankle joint and also on the tops of the toes were present similar lesions. The patient had never gone without shoes. There was no history of stomatitis.

Course of Disease.—In July the lesions subsided and the patient was discharged. This was her first attack.

It remains to be seen what will be the course of some of our chronic cases; the patients have survived the first attack, and even the second.

The acute or fulminating variety of pellagra called by Lombroso "typhoid" differs widely from the common Italian form. It runs a course usually of three weeks to three months and invariably ends fatally. The patients usually die before any marked nervous changes appear other than those usually incident to a profound acute toxemia. Over 50 per cent. of the cases in the southern states are of this variety. Belmondo and a number of other Italian observers state that this form is never primary; that it is always an [illegible] regular recurrence of the chronic fo[illegible].

CASE 5.—(Dr. R. H. Bellamy's case, Wilmington, N. C.).—*Patient.*—B. B., aged 30, white, married. When first seen the disease had existed for several weeks. The patient was much emaciated and was suffering from an obstinate diarrhea and stomatitis which suggested ptyalism. On the backs of the hands and the posterior surface of the forearms there were found moist exfoliative skin lesions. The same lesions were present on the back of the neck. In the beginning the patient thought he had simple sunburn. In all situations the chief characteristic was absolute symmetry.

After a few weeks this patient died of exhaustion.

CASE 6.—(Dr. W. J. H. Bellamy's case, Wilmington, N. C.). *Patient.*—V. S., negro, female, aged 12, was admitted to the James Walker Memorial Hospital in May, 1908. In February there had appeared at the outer canthi of the eyes two small red symmetrical areas. These areas extended over the forehead. It next appeared beneath the angles of the jaws and from there around the neck, meeting behind. Soon after the appearance of the skin lesions there developed a severe stomatitis. The next step in the disease was the appearance of the erythema on the backs of the hands, including the fingers. From the beginning there was always an obstinate diarrhea. In May the patient came under my care.

Examination.—At this time the whole face was covered with the lesion which appeared like an old burn and had caused much contraction, producing thereby an ectropion of both lower lids and distorting the mouth. The patient was unable to open her mouth wide enough to permit any examination; she was also unable to close her eyes completely. Both hands and both lower thirds of the forearms were covered anteriorly and posteriorly with the moist lesion.

Course of Disease.—Conjunctivitis soon developed and there was marked subconjunctival edema. The feet were edematous and later (several weeks) the lesion appeared on the dorsal surfaces. The knee-jerks were absent; skin sensation normal. The pupils reacted normally to light and accommodation. The patient complained constantly of cold. Her appetite at first was good but later she refused all nourishment. The affected skin was exfoliated, leaving perfectly raw surfaces. The patient passed eighty round worms during the three weeks she was under observation. She died of exhaustion in June.

In Italy the disease is confined to the peasantry almost exclusively. There poverty and pellagra are interchangeable terms. With us the disease affects all classes alike. In none of the twenty-five cases which I have studied was there a history of a preexisting chronic affection as tuberculosis. As a rule the victims were well-nourished and robust until affected with pellagra.

We have had occasion to consider whether the disease is infectious or contagious, and also whether it is a family disease. The patient just referred to was one of two members of the same family simultaneously affected. The other member was a younger sister, who has the chronic form, and recovered from the first attack. I have seen four children of the same parents affected simultaneously. Two of these patients died suddenly in the first attack. The other two have passed from our observation.

SIGNS AND SYMPTOMS

A prodrome is acknowledged by all writers on pellagra. This prodrome usually begins about Christmas time and is characterized by indefinite symptoms, such as anorexia or voracious appetite, pain and sensation of distension in the epigastric region, frequently diarrhea, though often constipation, insatiable thirst or the reverse. Later there appears headache, which is chiefly occipital, pain in the back and the neck, hyperesthesias, dizziness, muscular weakness, and uncertainty of motion. Roussel considered sensations of dryness and burning in the mouth and heat in the stomach to be the first symptom of the disease. In most respects these symptoms present nothing peculiar, but we have learned that when our patient complains of headache, vertigo, sensations of weakness, especially in the lower extremities, together with diarrhea, we should be suspicious of pellagra, especially if the season be late winter or spring. Theodori asserted that these prepellagrous symptoms existed four weeks before the appearance of the erythema, but in many cases the period is much prolonged.

The erythema almost invariably makes its appearance in the spring. In one series it appeared as early as February and as late as July. The greatest number developed in April and May. The uncovered portions of the body, as the hands, face, and neck, are more apt to be affected and in all cases are first affected. Authorities have always differed in regard to the rôle played by insolation in the causation of the disease. From our experience we are disposed to reject the idea. The disease usually appears so early in the spring that the sun's rays are of little consequence. Those of our patients who had the lesions of the skin of the feet were in most cases adults who were not in the habit of going without shoes. Further, the skin over the sternum is often affected. Some writers think that the actinic rays are responsible for these lesions of the exposed parts of the body.

The backs of the hands are invariably the first situation of the lesions. This occurred in all of our cases. The lesion in this position is very distinctive and usually furnishes sufficient evidence for a positive diagnosis. The first appearance is often mistaken for sunburn; no two things could be more alike. The lines of demarcation between the normal and diseased skin are absolutely symmetrical in position and direction. The points of greatest intensity are usually the skin over the knuckles and tip of the styloid processes. The lesions usually begin at the ends of the fingers posteriorly and extend upward to the junction of the middle and lower thirds of the forearm. The general appearance is usually that of diffuse redness, without swelling, but in some cases the swelling is added and makes its appearance before the erythema. The condition terminates in dry exfoliation or there may appear blebs, which rupture, leaving raw surfaces, which soon become covered by crusts. The appearance of the skin after healing is variable. It may be soft and velvety like an infant's skin, but there is always a tendency to the disposition of pigment, which increases with each recurrence. In three of our cases the lesion extended to the palmar surfaces, and in this position we always noted the soft, smooth condition of the skin after the lesions disappeared.

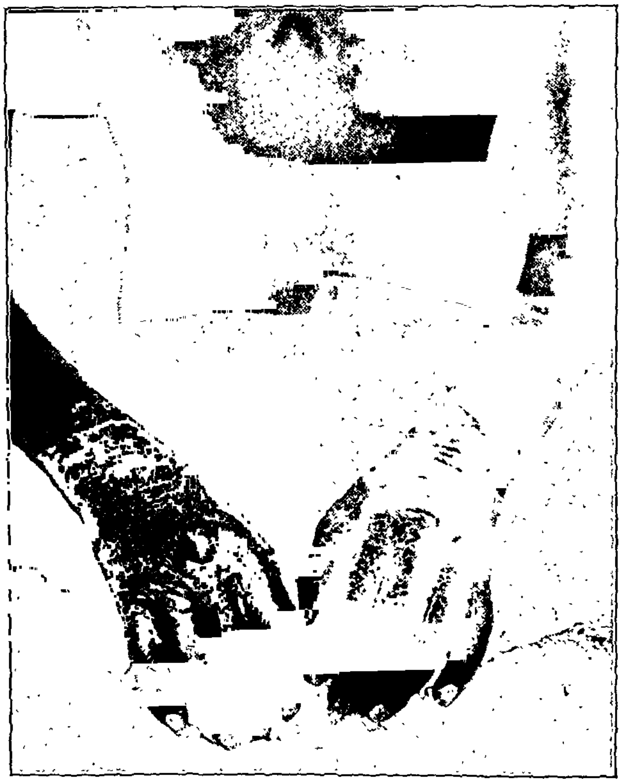

Fig. 3.—Patient 6; pellagrous lesions of hands.

After the hands the face is most apt to be affected, and we found this much oftener in women and children than in men. Perfect symmetry is maintained here just as in the hand lesions. Often the first appearance on the face is two small spots at the outer canthi of the eyes or the angles of the mouth. In several cases there were two spots of erythema on the forehead, with a narrow strip of normal skin exactly in the mid-line separating them. Sometimes the lesions assume the butterfly shape of lupus. Small areas below the lower lids are frequent. We have seen the lesions on the back of the neck with a maintenance of the same symmetry and often there is lateral extension of these lesions, which may form a collar meeting in front. The next point of selection is the tops of the feet. This occurred in one-third of our cases. In an acute case the erythema had much the appearance of an acute lymphangitis; beginning over the crest of the tibia and extending downward over the tops of the feet to the toes. As before mentioned, the erythema may appear

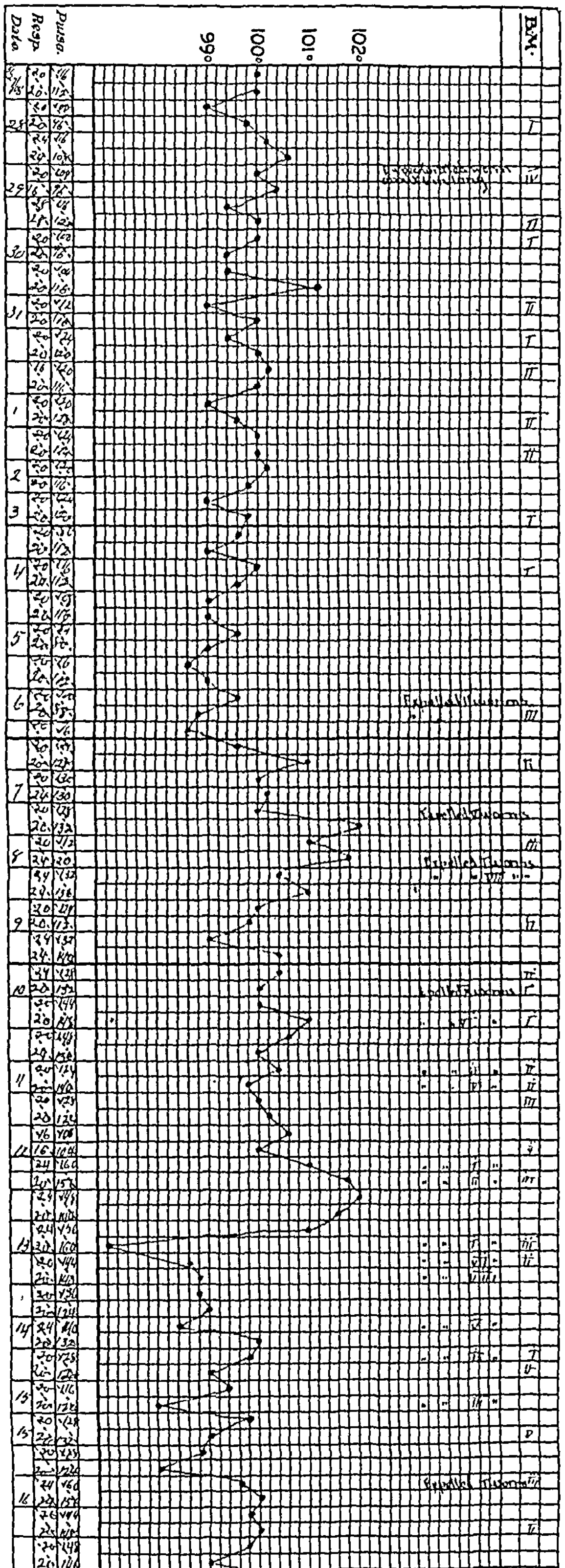

Fig. 4.—Temperature chart of Patient 6.

over the sternum. The labia pudendi are frequent seats of the lesion even in children. With healing there often is associated contraction of the skin as in superficial burns. In Figure 1 marked contraction of the skin of the face is shown, with resulting ectropion and contractions of the skin of the upper and lower lip which made complete closure of the lips impossible. In the dry lesions exfoliation usually occurs after three or four weeks. The resulting *pigmentation* varies from a slight yellowish tinge to a brown or chocolate, depending on the number of the attacks.

The stomatitis appears usually after the appearance of the skin lesion, sometimes long before, and, again, may be entirely absent. It is a very characteristic symptom and seldom fails to appear at some stage of the disease. It appears like salivation, which, in fact, is often present. The gums are usually swollen and intensely red. The tongue is red and often denuded of epithelium, giving the characteristic "bald tongue." The papillæ are enlarged, with furrows between. The patient complains of the sensation of a salty taste and burning in the mouth. In all our cases the mouth was affected in some degree.

The stomach is variously affected. In some cases the hydrochloric acid is normal in amount, while in others it is absent. Pyrosis, eructations, vomiting, anorexia, or bulimia, together with great thirst, have been emphasized by various writers.

One of the most unfailing symptoms is an obstinate diarrhea, which is most intractable. Sometimes it assumes a dysenteric character with violent colic. This intestinal condition is considered by many to be a neurosis.

In the acute form of the disease the nervous disturbances are no more than ordinarily occur in any profound toxemia. It is difficult to say at what stage the nervous disturbances appear in the chronic variety. In one of the cases previously referred to a robust man developed mental disturbances of a peculiar sort and had been in an institution for the insane a number of months before the first appearance of the pellagrous erythema. I recently discovered the first attack of pellagrous erythema in a woman who for several years had been in a hospital for the insane with a diagnosis of melancholia. Can it be that, apart from pellagrous insanity, the insane are predisposed to the disease?

The first nervous symptoms manifested are usually paresthesias. Chief among those are usually mentioned itching of the backs of the hands and the back, occasionally also of the lower extremities. The patients under my care often complain of pain of a burning character in the right or left scapular region. This latter is a common symptom often referred to. This burning sensation often occurs in the epigastrium, the hands, and the arms, and is supposed to be the cause of the tendency among pellagrins to throw themselves into the water whenever occasion presents itself. Numbness and formication are often complained of. One of the most constant complaints is cold extremities, and it is no unusual sight to find our patients in midsummer huddled before a fire trying to keep warm.

The vertigo of pellagra is a symptom on which much stress is laid by the Italian observers and was seldom wanting in our cases. It is responsible for many falls. By some it is considered a mere lapse of consciousness. According to the careful observations of McCampbell of the Western North Carolina Hospital for the Insane the psychic manifestations were preceded by a period of anxiety and worry with the attachment of undue importance to trivial things. There is often a simple slowness of ideas. A question is replied to long after the patient seems to have forgotten it. There often occurs an irritable depression with aversion to any activity. Later there develop disturbances of perception with hallucinations. Judgment may be disturbed, giving rise to delusions which usually are painful and depressive, with a tendency toward fear and suspicion.

Our hospital patients were a great care because of their persistence in disarranging the bed-clothes, attempting to get out of bed, and especially in their total disregard of all cleanliness. We were disposed to consider at first this latter as viciousness, but soon learned that it was mental hebetude. Refusal of food and suicidal tendencies were frequent in our series. As the disease approaches its close the patients become delirious and it is usually necessary to resort to the restraining sheet. They frequently cry out in a wild, incoherent fashion, and in their ravings it is impossible to prevent damage to the skin lesions, with the result that large areas are left raw and bleeding. The patient in such cases presents a horrid sight.

A condition is often observed somewhat resembling tetany, with paroxysmal tonic contractions and contractures of the upper and lower extremities in the semi-flexed position. The gait is simple paralytic, occasionally paralytic-spastic, but never ataxic. There is something characteristic, however, in the unsteadiness and seeming lack of confidence with which these people shuffle along. Static ataxia is occasionally mentioned. Incoordination is seldom observed, and then only in the upper extremities. Tremor of the arms, head, and tongue sometimes occurs.

Definite epileptiform attacks with loss of consciousness are occasionally observed, having the character of a cortical epilepsy. One of our patients died in such an attack.

The skin sensibility is very irregular. The sense of taste is usually normal. The cutaneous sensibility to the faradic current is often increased. Sometimes there is decrease of tactile and thermal sense. Owing to the altered condition of the patients' intellect and the resulting unreliable character of the replies to questions an investigation of sensation is unsatisfactory.

The skin reflex is usually normal. The pharyngeal reflex is not infrequently decreased. The tendon reflexes are quite variable, often normal, often increased to the point of an intense clonic contraction. Much less frequently they are decreased or absent. It sometimes occurs that the reflex is increased in the lower extremity and normal in the upper extremity. In Tuczek's 300 cases one-half had increase in the knee-jerk up to the rapid patellar clonus even with the slightest percussion of the tendon. In thirty-five cases there was dorsal clonus and increase of the tendon reflex of the upper extremity. In eight cases the knee-jerks were absent and in the remaining it was partly lessened and partly normal. Differences in the two sides were often noted.

Among the vasomotor disturbances is described a vasoparalytic dilatation of the veins and capillaries and not infrequently edema. The skin lesions are usually counted as trophic disturbances.

Pellagra is usually described as a feverless disease. Our charts show that during the active stage there is invariably a rise of temperature ranging from 99.5 F. to 102 F.

The urine is alkaline and deficient in phosphates. When the toxemia is intense there is albuminuria.

What is called by most writers the third stage is characterized by a general atrophy of the whole body; the subcutaneous fat disappears and the patients present the appearance of advanced cachexia. Profound weakness necessitates rest in bed. The bladder becomes paralyzed and the diarrhea is uncontrollable. Death is usually directly attributable to myocardial degeneration and its consequences.

In the very chronic cases there is frequently an acute terminal exacerbation, and it is this condition that the Italians have in mind when they speak of the "typhoid" pellagra. Evidently they are not familiar with the acute pellagra so common with us. This explains Belmondo's statement that "typhoid" pellagra is never primary, but merely an exacerbation of a very chronic case. It is in this terminal condition that the delirium is so wild. Tuczek states that at autopsy fever could be found to have been due to a bronchopneumonia. In our experience there is just as much cause for fever in pellagra as there is for fever in a large superficial burn which has become infected.

PELLAGRA SINE PELLAGRA

"Pellagra sine pellagra" or pellagra without skin manifestations is a point of contention. Some observers consider erythema or atrophy and pigmentation of the skin essential for the diagnosis. Babcock, in South Carolina, at the present time, has a number of such cases under his care. He says these patients have stomatitis, diarrhea and disturbances of the nervous system. My own experience is too limited to make the diagnosis without reserve. However, I have under my care several cases which I have diagnosed as "pellagra sine pellagra." One of these patients gives the following history:

CASE 7.—Mrs. O., aged 58, was seized with a peculiar attack which was thought to be apoplectiform. She recovered from the attack but was never quite well afterward. She had repeated obstinate attacks of stomatitis and diarrhea. Five years after the first attack the patient, now aged 63, is bedridden on account of profound weakness. She has an obstinate diarrhea and is quite emaciated. There is no erythema. She replies to questions with marked tardiness. The patellar reflex is absent. The pupils react to light and accommodation in rather an exaggerated degree.

I am convinced that in many of the so-called cases of "pellagra sine pellagra" there is or has been a very mild erythema which is not visible at the time when the patient comes under observation. All writers on pellagra state that the extent of the erythema is no index to the severity of the disease.

CASE 8.—Recently there came under my care a white woman aged 46, mother of eight children, with a negative family history and nothing of note in her previous medical history. In July of this year she had an acute gastritis which was quite severe in character. Soon after this she developed diarrhea and later a severe stomatitis. She made a slow recovery. During convalescence the palms of her hands and the soles of her feet desquamated. On close inquiry I elicited the fact that early in her sickness her hands had a purplish cast which attracted attention at the time. Careful examination showed the last remnant of the upper border of what must have been the pellagrous erythema. Certainly the lesion was very inconspicuous. At present this patient is a great sufferer. The pain in her hands and feet is constant and her hands show *beginning contractures*. She is unable to comb her hair or button her clothes. She walks with great unsteadiness and says she has the sensation of walking on roller skates. Her station is poor. The pupils react sluggishly to light and accommodation. The knee-jerks are greatly exaggerated. Except for increased emotion, the mental condition is little changed. The patient is much emaciated and is losing ground steadily.

Mistakes in the diagnosis are often made owing to the fact that the order of appearance of the symptoms may be entirely reversed. I have seen stomatitis, diarrhea, and all the mental changes appear a year before the first indication of the skin lesion. It is very likely that in "pellagra sine pellagra" sooner or later there will be skin manifestations.

PATHOLOGY

The pathologic changes that occur in pellagra depend largely on the chronicity of the affection. As in ergotism, the most definite changes are in the spinal cord. These changes are just what the symptoms would indicate. In ergotism the posterior root zones are affected, but this does not occur in pellagra. The latter disease shows affections of the lateral rather than the posterior columns. Allbutt says that the weight of the disease falls on the crossed pyramidal tracts; the direct cerebellar tracts are not affected; the cells in the anterior horn are deeply pigmented. The lesions of the posterior columns occur chiefly in the cervical and upper dorsal regions while those of the lateral columns affect the middle and lower third of the dorsal region.

In seven out of the eight autopsies which Tuczek reports the posterior columns were degenerated in seven. In one the degeneration was limited to Goll's column and a medial strip in Burdach's column. In five the degeneration extended throughout the whole length of the cord. In one the lesions were found in the cervical portion alone. In four the dorsal region was the chief seat of the disease. In five the crossed pyramidal tracts were affected. In the first the affected areas extended from the upper cervical to the upper dorsal with degeneration of the cells in the anterior and posterior horns in the middle and lower cervical. There was atrophy of cells in the anterior horns and Clarke's column of the upper dorsal. There was atrophy also of the anterior root fibers. In the second the degeneration of the crossed pyramidal tracts was more intense in the dorsal regions, but extended as high upward as the middle cervical and as low as the upper dorsal. In the third case the lesions extended throughout, but was especially marked in the dorsal portion. In the fourth case the lesion was confined to the dorsal portion, and in the fifth degeneration was massive and limited to the middle cervical portion. Tuczek further found abnormal pigmentation similar to senile changes, especially of the ganglion cells. He considered the presence of hyperemia, anemia and edema, together with the occasional inflammatory affections of the central nervous system coverings, as well as obliteration of the central canal of the cord—all a part of many chronic affections of the nervous system and, while present in pellagra, they should not be considered characteristic.

The changes in the brain are inconspicuous except for occasional fatty degenerations or calcification of the intima of the smaller vessels and pigmentation in the adventitia.

In one of my earlier cases in which, as was above mentioned, an unusual malarial infection was thought to play a part, the tissues were carefully studied by Dr. H. A. Cotton, Superintendent of the New Jersey State Hospital for the Insane. Dr. Cotton reported in part:

> The cortex showed no reaction that could be called pathologic. The topography was unaltered and the elements of the cortex were not affected by the malarial infection. There was probably an excess of pigment in the nerve cells which could be accounted for by the patient's age. The blood vessels appeared a trifle thickened but the fixed cells did not seem altered or to have proliferated at all and the vessels were not increased in number. There was no evidence of general paralysis or other organic affections and no evidence of cerebral syphilis. The plasmodia were very easily seen in the blood stream and in large numbers. The Weigert preparation for medullated fibers did not show any degeneration, but in the Marchi preparation there was a scattered degeneration in both cortex and cord. These scattered degenerations probably only meant that there was some toxic effect of the malarial infection. It was only a very moderate degeneration and of little significance.

The stamp on the nervous system can be discovered only after the disease has existed for years. As all of our cases had run only very short courses, the pathologic changes were not marked.

Pigmentation and fatty degeneration of the thoracic and abdominal organs occur. To this is added atrophy chiefly of the organs innervated by the vagus: the heart, kidneys, spleen, intestines, liver and lungs. There is atrophy also of the coats of the intestine with occasional hyperemia and ulceration of the lower portion.

The pathologic changes seem to be slow degeneration rather than inflammation and is probably not essentially progressive in character.

ETIOLOGY

In 1776 the *Società patriotica di Milano* offered a prize for a solution of the question of the etiology of pellagra and a means to combat it. Marzari, in 1810, suggested the relationship of corn in the etiology. Strombio the elder and Marzari asserted that the corn was deficient in nitrogen because it was sown late and gathered green. Forcher and Roussel asserted that it was a disease of the corn which produced the toxin. Lombroso laid stress on the fact that healed pellagrins when given good corn food became affected again. Pellagrins seem to show a susceptibility at certain seasons of the year for even the smallest quantity of pellagrous material. Corn ordinarily contains many micro-organisms and certain parts of the kernel make an excellent nidus. Lombroso concedes that the best corn is often most diseased, and that the trouble is rather in some noxious agent which uses the corn as a host. The *Acarus farinæ* was supposed to play an important rôle by making a point of entry into the kernel through which the noxious agent entered. Moisture is one of the greatest sources of trouble. The corn, besides being gathered green, is not always carefully handled and is in consequence poorly protected from moisture. It is said that the custom among the Italian peasantry of preserving polenta for days and even weeks, allowing fermentation to occur, is the chief source of danger.

In studying the etiology of the series of cases occurring in my section I was impressed with the fact that practically all of the corn used by the people came from Ohio and Virginia, though in neither of these states had pellagra ever been reported. While by no means ready to accept the corn as the source of the disease, I am of the opinion that, if there is any connection, the noxious agent must appear after the shipping of the corn. Many southern observers attach importance to the heating of the corn which so often occurs in the cars before they are unloaded. Atmospheric conditions probably play an important part.

Last spring I collected three samples of corn which I had reason to suspect of containing pellagrous material. These samples were placed in my laboratory, which during the summer months is a damp place. After an absence of several months I returned to find everything covered with mold. It occurred to me that the conditions were favorable for the development of any fungus, and I sent the three samples to the North Carolina Experiment Station. Dr. F. L. Stevens furnished me with the following report:

		Per Cent.
No. 1.—	Penicillium	30
	Aspergillus	60
	Syncephalstrum	10
No. 2.—	Aspergillus	70
	Penicillium	20
	Chætomium	5
	Syncephalstrum	5
No. 3.—	Mucor	5
	Penicillium	45
	Aspergillus	50

Dr. Stevens considered each sample a good average grade of corn and suitable for food.

Various molds have been brought forward as the etiologic factor. Most common among these is the *Penicillium crustaceum*, which was not found in any of the corn consumed by my patients.

Lombroso's pellagrozein is said to produce pellagra in animals. While there are toxic symptoms produced, they are not sufficiently typical to be counted as pellagra. Two organisms have been isolated from corn. The first is a short bacillus producing an orange-yellow growth on agar-agar, staining by Gram's method and forming no spores. The cultures are abundant and gelatinous. It does not produce gas. This organism is non-pathogenic. The second bacillus produces spores. On agar-agar it produces faint round colonies, which also grow on glycerin agar. It liquefies gelatin. This bacillus, too, is non-pathogenic to rabbits. Its appearance and characteristics correspond with those of the *Bacillus mesentericus* or with the *Bacillus maidis* of Peltauf and Heider. This organism was isolated from corn-meal and corn bread, as well as from the feces of pellagrins. It is claimed that this organism is also found in the feces of the normal individual.

Majocchi, in 1881, described the *Bacillus maidis* as a very motile organism which he found in the blood of pellagrins in the beginning of the disease. Cuboni found the organism in diseased corn and stated that it resisted the boiling temperature. Peltauf and Heider asserted that the *Bacillus maidis* developed like the *Bacillus mesentericus* or the potato bacillus and that it was not always present in the feces of pellagrins. They considered the organism non-pathogenic, but an alcoholic extract of the corn-meal containing it caused narcosis, paralysis, and death in mice. Babes and Sion produced symptoms resembling pellagra in various animals by the injection of this bacillus. Ballardine, working with the *Sporisorium maidis*, was able to produce in man gastrointestinal symptoms, but his results were not conclusive.

Tizzoni isolated an organism from the blood, cerebrospinal fluid, organs, and feces of pellagrins. With this organism he produced, without question, the disease pellagra in rabbits and guinea-pigs. Tizzoni also found this same organism in two out of nine samples of suspected corn. In these experiments Tizzoni infected 28 animals. Of this number, 4 were infected by mouth, 3 with pellagrous material and 1 with a culture from the blood of a pellagrin. The remaining 24 were infected subcutaneously, 8 with the blood of a pellagrin, 12 with an organism isolated from the feces of a pellagrin and 4 from corn. The disease so produced ran an acute course of from 16 to 50 days and a chronic course from 87 to 105 days. Autopsy showed lesions of the skin and abdominal organs of a hemorrhagic type. The changes in the nervous system were varied and indefinite.

Tizzoni and Panichi, in a previous communication, stated that they could produce the disease experimentally only when, in addition to their inoculations, the animals were fed on corn food.

Lombroso was the chief supporter of the chemical theory of the decomposition of corn as the cause of pellagra. He experimented with great quantities of diseased corn containing *Aspergillus*, *Rhizopus*, *Bacillus maidis* and *Ascari*. The dogs on which he experimented were fed milk, bread and flesh, and on the administration of his preparation from the corn the temperature rose and the weight decreased. There usually appeared psychic and muscular torpidity and in some cases anesthesia and tremor. Out of 10 subjects, 7 had diarrhea and in 1 there was an erythema. In all, there were appearances in the dog considered the counterpart of pellagra in man. The feeding of bad corn-meal caused erythema, stupor and dysphagia. Lombroso prepared from the corn an oil, a fluidextract and a tincture. He gave to 12 individuals daily the corn tincture and in 8 cases there was itching of the back and the face and loss of weight, in 5 cases diarrhea, and in 5 cases desquamation. The appearances were not exclusively those of pellagra, and the result is, therefore, not conclusive.

Neusser believes that corn contains a non-toxic glucoside produced by the *Bacillus maidis* and that in the intestine this body is decomposed, producing a toxic substance, but that this occurs only when the bowel is already in a diseased condition. There is not sufficient ground for this view.

Antoniu reported seven subjects fed on diseased corn in addition to meat and cheese. Of this number, several became pellagrous, but even this observation is not counted as conclusive, because the possibility of the victims having been previously pellagrous.

Erba's pellagrozein prepared from bad corn caused convulsions, increased reflexes, narcosis and anesthesia. He noted that in summer his product was more toxic.

Babcock, quoting Sambon, says that the association of pellagra with the eating of maize is too universal to be ignored and that, based on pathology and symptomatology, there is good ground for the hypothesis that pellagra is a protozoan disease allied with trypanosomiasis and syphilis.

I have isolated from the blood of a pellagrin in the active stage of the disease a bacillus. It is probable that it is the same as the very actively motile organism described by Majocchi. My observations on this organism are not sufficient for a detailed report at this time. It is altogether probable, however, that Peltauf and Heider, Cuboni, Majocchi, Tizzoni and myself have found at different times the same organism, and that the varying descriptions are accounted for by the polymorphous properties which have been so well described by Tizzoni. This organism is rightly called a streptobacillus by Tizzoni owing to its very short length, often hard to distinguish from a coccus and again by its tendency to occur in chains. It resists a temperature of 90 C. for one hour.

PROGNOSIS

The prognosis of pellagra in this section is very grave. We have many evidences of the fact that when an infectious disease first appears in a country it is much more malignant than later on. This is well illustrated in the lower mortality among the Japanese troops in their recent war with Russia from beriberi (about 3 per cent.), while in a new country this mortality often reaches 60 per cent. The same condition obtains in measles and yellow fever outbreaks. Fulminating pellagra is an utterly hopeless disease. The death rate of chronic pellagra is very variable, and it is too soon for us to report definitely on this subject. So far we have not observed a case of longer standing than three years.

TREATMENT

The treatment of acute pellagra is of no avail. We have reason to suspect that the epizootic meningitis among horses is due to the same cause as pellagra in man. If the above-mentioned organism is the cause of pellagra and the horse is susceptible, we have reason to hope that the serum therapy will soon come to our assistance. It has been shown that the blood of a healed pellagrin is curative in guinea-pigs experimentally inoculated with pellagrous material.

In the chronic cases it is possible that a cure may result from the removal of all corn food and general tonic treatment. Atoxyl is much vaunted just now, but in our hands the results have not been so brilliant as reported by the European writers on pellagra.

In closing I wish to express to my fellow practitioners of North Carolina my appreciation of their generous assistance in collecting data for this paper and also to the officials of the James Walker Memorial Hospital for the privileges of their wards.

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THE VITALITY OF THE DENTAL ENAMEL*

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My interest in this subject has been renewed recently by being shown some very beautiful sections and photographs of enamel prepared by Dr. C. Francis Bodecker, of Berlin. The sections were decalcified by the celloidin decalcifying method which stains the tissue at the same time. The photographs were made by the ultraviolet light. These enamel sections were shown me while Dr. Bodecker was visiting America a few months ago, and are the result of his own work on the research of this subject. He very kindly gave me a section that he had prepared by this method, which was very thin, and which was stained to show the semblance of living tissue between the rods of enamel, which he offers as a possible proof of his father's theory that there are living fibers between the enamel rods. I have given to the study of this section close attention and with the highest powers of the microscope at my command. Of the results I shall speak later.

Dr. Bodecker is the son of Prof. C. F. W. Bodecker, the author of "The Anatomy and the Pathology of the Teeth," a work which created considerable discussion among the authorities at the time of its publication in 1894, on account of its acceptance of Professor Heitzmann's peculiar views.

Professor Bodecker believed that the enamel is traversed by fibers of living matter located in the interstices between the enamel rods. He states that the fibers are connected with one another by delicate fibrillæ piercing the enamel rods in a vertical direction. Besides these rectangular unions, he asserts that the basic substance is traversed by a minute network of living matter, that the enamel fibers send conical thorns toward the enamel rods, and that such thorns are visible in all interstices between the enamel rods. He also says that the enamel fibers are continuous on the outer surface with the covering layer of flat epithelium, and, on the inner surface with the dentinal fibers, that the latter connection is either direct or indirect through a network of living matter or through intervening protoplasmic bodies in the interzonal layer.

A promise made several months ago to your Secretary to discuss the subject of the vitality of the enamel is my excuse for the presentation of this paper. It has been a battle-ground for discussion by the forces of the Heitzmann theory, in opposition to eminent authorities both in this country and abroad for many years.

In order that we may understand the subject better, I shall describe the formation of the enamel organ with its layers, as it is formed on the cusps of the dentine germ just before the formation of the dentine-forming cells, the odontoblasts. The ameloblasts appear in the enamel organ over the dentine germ as columns of cells while the outer cells of the dentine germ are as yet simply unaltered connective tissue cells. The enamel organ, at its first stage, is a club-shaped ingrowth from the Malpighian layer of the epithelium into the connective tissue which is covered by it. This appears at about the forty-eighth day of embryonic life. As it forces its way into the connective tissue, it expands at its base, and the cells within are multiplying and differentiating, rapidly assuming a stellate form, and causing an expansion at the base of the organ. As it enlarges, it enfolds the growing dentine germ, covering it on all sides except

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its base, and forming a cap or bell-shaped organ over it. In making a section of it at this time, we shall find that the cells on the periphery of the organ are columnar in form, the columns of cells next the dentine germ are to be the ameloblasts or enamel builders, the internal layer; while those on the outer surface, the external layer, have no known function. Just within the internal and external layers is seen a layer of cells resembling connective tissue, but of epithelial origin. This is a layer called the stratum intermedium. This stratum intermedium is an important layer, appearing to give out to the forming enamel new cells, and also its cement substance, which surrounds the rods. The stellate reticulum, a mass of cells filling the central portion of the enamel organ, is thought to be of slight importance. It supplies the salts of lime to the ameloblasts at beginning calcification, but when calcification is actively going on all of this tissue disappears at that part. The neck of the organ connecting the organ with the stratum Malpighi has absorbed, and the embryonic connective tissue with a rich supply of capillaries is giving its soluble lime directly against the cells of the stratum intermedium to the ameloblasts, where, by a chemical change, not yet fully understood, calcospherites are formed. These, merging together, form the globular bodies within the ameloblasts at the point of calcification, which are to be separate segments of the rods themselves.

At about the end of the second and the beginning of the third month of intrauterine life, in the embryonic tissue of the jaw, we shall find the primary specialization of cells which are to form the dentine germ, and from which come the cells that afterward form the dental pulp. It is in no special zone or layer of this connective tissue that the dental germ is formed, but the formation seems wholly influenced by the contact with an enamel organ. In the presence of this organ, the connective tissue cells become stimulated and active. It would appear as though they offered a resistance to its further growth, and from this resistance the enamel organ was made to surround it. The stimulation and activity of the cells is shown by their rapid growth, which clouds the part at this point, becoming a dense focus of new growth. The tissue is seen to be actively building itself up, and this results in the formation of a papilla, around which the enamel organ is growing like a cap or helmet. The papilla grows to a cusp or cusps, and becomes the dentine germ.

At the end of the third, and at the beginning of the fourth month, the dentine germ is rather a homogeneous structure; round cells are very numerous; they have relatively large nuclei and nucleoli. As the germ assumes the cusp shape, multiplication of cells takes place around the blood vessels, which have formed in the germ, and after this a jelly-like or hyaline layer forms around its outer surface. It will be found that the dental germ will grow into the depressions of its special enamel organ, an incisor, bicuspid, or molar tooth, and these growths will become the dentine cusps. We also notice that the different layers of the enamel organ are now formed, and that the sacculus is forming its layers about both the enamel organ and dentine germ. When this process is completed, these are enclosed in the sac, and thus become a dental follicle. Within the area of this sacculus are contained all of the cells which shall develop later into the mature enamel, dentine, cementum, and pulp of the fully formed tooth. They have all become specialized cells.

The cells just within the dentine germ become richer in protoplasm, and many processes are seen to be forming from them. They are becoming branched cells. A little later the cells at the surface grow larger and assume a columnar shape. We also see just within this layer of cells some that are pear-shaped, conical, cylindrical and spindle-shaped. There are some authorities who have spoken of what they call elementary cells on the outer layers, and from which they say the odontoblasts are formed, but I have never observed anything but globular masses forming, and these are not cells.

At the beginning of the fifth month, these cells on the surface are seen to be undergoing a differentiation as stated above, and are becoming specialized or formative cells, the odontoblasts. They are membraneless and little more than masses of protoplasm, which seem to be filled with great numbers of bright glistening globules of different sizes.

It is at this stage of growth that we look for evidence of the penetration of the process or fiber of the odontoblasts into the as yet uncalcified ameloblasts. And it is at this stage of growth, I would like to impress on your minds, that we have the enamel organ fully formed, and ready to calcify. The internal epithelium, wholly ameloblasts, the real enamel-builders, consist of columnar cells, membraneless, and resting on the cusp of the dentine germ. On the outer surface of the dentine germ the connective tissue cells are differentiating into a columnar formation, and these are to be the dentine-builders, soon to begin the process of calcification; for this process takes place first in the odontoblasts until a calcified cap is formed. After this, the process of calcification takes place in the enamel; but just before calcification we shall find between these formative cells of dentine and enamel a peculiar layer. It is soft and plastic, transparent, and appears structureless. Some have called it a zone of amorphous material. Tomes says that it is the formation of the first skin of dentine, a stage of metamorphosis preparatory to the impregnation with calcareous salts. Its formation has originated from the cells of the dentine germ, and it is formed on its outer surface just before the calcifying process begins. It resembles a borderland tissue. I have recently been studying this structureless layer and the condition existing just previous to the formation of a calcified structure, with the desire of finding out whether a fiber of the odontoblasts can be found to enter enamel tissue. I have found the problem a difficult one from the fact that this structureless layer masks or hides any tissue that may pass into it.

We know that the fibers of the dentine cells do irregularly enter the enamel. I shall demonstrate that. This may be seen in the crown section of almost any human tooth, and these fibers must have pushed their way into the uncalcified enamel cells at this time. I have examined many sections just as calcification was about to begin and I am sure that I have seen the processes of the odontoblasts pass into this structureless layer and out on the enamel side, usually passing in an oblique or irregular line over the ameloblasts in the direction of the stratum intermedium. I have also teased enamel from the dentine at this time and have seen a few of the fibers from the odontoblasts coming through on the outside of the dentine edge. As a general thing, we expect to see in the section the course of the fibers in the dentine end just before the enamel is reached. But the microscope shows that many of these fibers go entirely through the dentine sections and into the enamel substance. I have a number of sections which show dentine fibers enlarged and flattened by pressure, running nearly through the enamel. Their course is not generally with the direction of the rods. Usually it is an irregular course. Many of the appearances which we have heretofore thought to be cracks in the enamel are really dentinal fibers, which have entered the enamel before calcification began, and have become flattened by pressure so as to give them the appearance of cracks. Dr. Francis Bodecker has noticed this fact, which has never before been described, and has given the fibers the name "enamel lamellæ." He states that the laminæ are sheet-like processes of pure organic matter in which no lime salts have been deposited, originating at the dental margin and passing to the outer boundary of the enamel. These appearances, which Dr. Bodecker describes, I have said were simply flattened dentine processes; they are sometimes traced nearly to the outer surface of the enamel, and in several instances I believe that I have traced them to the outer surface.

The existence of these enlarged and flattened organic fibrils in enamel would account for the peculiar forms of tissue which I found on the slide when I decalcified thin sections of enamel with strong acid. These forms floated about in the acid when all other tissue had apparently disappeared. They were probably the thin sheath tissues of these organic dentine fibrils. When a tissue is partially calcified, as sheath tissue always is, it becomes a transition tissue, no longer wholly organic, but like the partially calcified tissue which Rainey has called calcoglobulin, is not acted on by acids. The sheath of the dentine fibrils in the dentine matrix is composed of this transition tissue, which is so indestructible that it may be found by decalcification even in fossil teeth. The cement substance between the rods is a tissue somewhat of this nature, but it resembles more a colloid substance than it does a true calcoglobulin. These flattened dentine fibrils within the enamel originate, not as Dr. Bodecker states "at the dentinal margin," but from the process of an odontoblast, which has forced its way into the enamel substance before calcification began, and has become enlarged, and is flattened by the pressure of the enamel rods as they are forming and calcifying. And at this time there is considerable pressure. With my present knowledge I can not call the cement substance everywhere filling the space between the enamel rods "organic envelopes," because this cement substance is only partially organic and it is not an envelope. It is partially calcified, and forms a substance which resists the action of the acids to a very considerable extent. It is shown to be a transition tissue, for it wholly calcifies with age. In young teeth the substance will take a faint stain, and one might mistake it for an organic tissue, which I feel sure it is not. In one of his photographs Dr. Francis Bodecker has mistaken a small triangular space as indicating the existence of a so-called envelope for each rod, but this small space is not really a space, but is a small portion of a new forming rod within it, and the cement substance is surrounding that as well as the others. It is a new rod forming to fill up the larger growing outer surface of the enamel. I have seen many of these rods beginning to form in the central portion of the enamel and they begin as small wedge-shaped rods at their base, afterward forming to the normal size. At the junction of the dentine with the enamel there is found evidence of a layer of what appears as living matter, usually so thin as to be hardly perceptible with the high powers of the microscope, but at times forming a perceptible interzonal layer; it is of dentine origin. Very many of the dentinal canals open to this, and send their fibers into it, and some of these fibers are bent in their course within it, and penetrate the enamel substance, not directly across, but a little further on. I have traced these dentinal fibers in this way in many instances. Dr. John L. Bart, in Professor Bodecker's work, makes the misleading statement that the dentinal fibers rarely enter the enamel in the human teeth, but that the reticulum of the dentine is continuous with that of the enamel. This conflicts with the views of Professor Bodecker, who states, in the same work, that the rods of the enamel are on the average half the diameter of the columns of the basic substance in dentine, and that, therefore, four columns of the former will correspond to two of the latter, and that consequently two dentinal fibers will answer to four enamel fibers; also, that at a place of junction of the enamel with the dentine a direct connection is not infrequently seen between the enamel and dentine fibers, and that in many places the dentinal canaliculi, on entering the enamel, suddenly become enlarged. He states further that in the interzonal layer, at the bottom of the bays, we meet fibers occupying curved spaces between dentine and enamel, or we see in a correspondingly bent course protoplasmic bodies directly connected with the dentinal fibers downward, and with the enamel fibers upward.

In my own investigation I have seen all these appearances, but do not understand what is meant by "connecting with enamel fibers." I can find no enamel fibers, as Professor Bodecker would have you to understand, but we shall find only continuation of dental fibers which have penetrated the enamel tissue. After calcification, they are almost never seen to be between the rods, as they are pictured in Professor Bodecker's chapter on enamel. They run almost always irregularly over and across the rods. The section of enamel showing fibers in Dr. Abbott's article, in Bodecker's work, is misleading. It does not show enamel fibers. What it does show is a thin section of enamel, with the cement substance standing out from the rods. The cement substance, being a partially calcified tissue and harder to decalcify than the rod substance, stands out from these rods and causes this appearance.

Dr. Francis Bodecker, in his article[1] entitled "Enamel of the Teeth, Decalcified by the Celloidin Decalcifying Method," recognizes this fact when he says that in the walls of the organic envelopes (cement substance) minute quantities of lime salts are deposited, making perfectly calcified normal human enamel appear to be almost homogeneous; that the first action of the acid in attacking the enamel is to dissolve this deposit in the envelopes (cement substance), causing the individual prisms to become more apparent; but that when this deposit of lime salts has been removed by the action of the acid, however, the organic envelopes (cement substance) are no further acted on.

In this, it will be seen, Dr. Bodecker acknowledges that the cement substance is partially calcified and changed so that acids will not destroy what is left.

Whenever a tissue becomes partially calcified its nature changes; it is no longer an organic tissue. The impregnation of the lime salts has profoundly modified it, so that acids which would destroy an organic tissue will not act on it after the lime has been dissolved. Such tissues are found in the sheath tissues of the dentinal canals, in all borderland tissue, and in a certain modified condition in the cement substance of the enamel. It is in this condition a transition tissue, which has become partially, and will in time become wholly, calcified. There are many pictures—not from photographs—in Professor Bodecker's chapter on enamel which are misleading. They show in the central portion of the cement substance a regular system of living fibers sending out offshoots anastomosing across the enamel rods with other offshoots from other fibers, and these pictures also show a continuous connection with the processes from the dentine fibers. With my many years of study on the enamel I have never been able to find a trace of such a regular system of living fibers between the enamel rods. And with my present knowledge, based on my investigation, I can not believe that such a system exists. For several years I gave most of my leisure time to investigating this one tissue, making many hundreds of sections, and treating the tissue with every known method of technic in use at that time. As a result in 1888, at Boston, before the Academy of Dental Science, and in 1890 at the International Medical Congress at Berlin I demonstrated for the first time that enamel rods were formed from globular bodies given out from the cell, and not from the calcification of the cell substance itself, as was generally thought at that time. After seeing the beautiful photomicrographs recently made by the use of the ultra-violet ray by Dr. Francis Bodecker I am more than ever convinced that it will be found impossible to demonstrate the existence of a regular system of living enamel fibers between the rods of mature enamel.

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[1] Dental Review, April, 1906.

Dr. Francis Bodecker has entered the field of research in this subject, and is doing some valuable work with every modern accessory to help him. The sections which he has shown me are the finest that I have ever seen. His photographs made with the use of the ultra-violet ray are exceptionally fine. His section of enamel, spoken of in the early part of my paper, which he had made by the acid celloidin process, is the work of an artist; it is unusually thin and beautifully prepared. It has given me great pleasure to study it. The cement substance is well stained, and to the uninitiated it has a certain semblance to an organic tissue, but we are to take into account this important fact that decalcification has profoundly changed this cement substance. In this condition it is not the same tissue that we should find in a thin section of enamel from a freshly extracted tooth. Here we should see the tissue true to life. In Dr. Bodecker's section the decalcification of its lime has given us a different substance, different from what we should see in an unaltered and uncalcified ground section. I should have been glad to find in this section, within the substance of the cement tissue between the rods, that perfect system of living fibers so beautifully pictured in his father's work. I should also have been glad to find the organic envelopes of which he speaks in his paper already quoted from. But, with the highest powers of the microscope at my command, and after a careful search, I fail to find any convincing proof that either of these tissues exist. The section shows very plainly the narrow stained line of the changed cement substance between where the rods of the enamel were, and a cross-section of this shows the cement substance binding all of the rods together as a continuous tissue, but fails to show any suggestion of these organic envelopes which he says surround each separate rod of the enamel. In the many sections which I have made—and I have recently looked them over very carefully—it has been impossible to trace any signs of the formation of these envelopes; the cementing substance is shown to be continuous, surrounding all rods.

It is a question yet to be decided just how far the cement substance between the enamel rods is a vital tissue. I do not, with my present knowledge, believe that it is a vital tissue, or that it has the same power of vitalization as have the fibers which are formed in the dentinal canals. There can be no question but that in the living tooth it is a partially calcified tissue, a transition tissue, which in old age becomes wholly calcified. It is a tissue so changed chemically that when it has had its lime taken from it by acid it can not readily be further destroyed. It resembles in this, not wholly, but somewhat, the sheath tissue of the dentinal canals, which is not a vitalizing tissue, because within the core of this sheath tissue we can see the vital fiber sending out its anastomosing branches through the sheath tissue to other vital offshoots from other canals. This sheath tissue is also a transition tissue, which becomes calcified into calcified matrix as age comes on.

In conclusion, then, we may assume that the scant vitality found in young enamel is given to it by a very thin organic layer of dentine origin between the dentine and enamel called the interzonal layer, together with an ingrowth of some of the processes of the dental forming cells which have invaded the enamel substance prior to its calcification. In some instances I have found these processes to have persisted in this invasion of the enamel substance so as to reach, or nearly reach, to the outer surface of the fully formed enamel. These invading dentinal processes are exceedingly irregular in their course, seldom following the line of the cement substance, but more often running in an oblique direction across the enamel rods. In a thin section of the cusp of a human tooth we can count nearly forty of these invading dentine fibers. Where they pass into the substance of the enamel they seem to have become flattened and compressed like lamellæ by the force exerted by the rods of the enamel while they were calcifying.

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SOME MINOR POINTS IN THE SURGERY OF CATARACT *

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Methods for the successful extraction of cataract have been so often the subject of discussion that it would seem as though further discussion were superfluous unless one had something both new and tried to offer. Yet the subject has a fascination that increases with experience in operating, and to old-fashioned oculists—those who are capable of treating diseases of the eye as well as the errors of refraction—it is ever one of interest. The compiling of statistics by the great surgeons, the publication of results in 100, 500 or 1,000 consecutive operations, the recitation of accidents and of the means of treating and of preventing them, the dissemination of methods for the avoidance of mistakes, are a great boon to the followers of these surgeons and to the victims of cataract. But the record of failures and the causes of failures by men of large experience would be of more service to the beginner than that of their successes. Unfortunately for the oculist's peace and comfort, he does not bury his failures. They seem to

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live forever to tell their tales of woe to sympathetic hearers—oculists and others. Naturally we do not like to publish our mistakes, believing that the publicity given by the victims is quite enough. Yet the story is only half told if the failures are suppressed.

The causes of failures are many. Conspicuous among them stands the inexperience of the operator. With inexperience may be mentioned unsuitable personal habits and insufficient preparation. The beginner must qualify himself by many operations on animal eyes, standing or sitting in the proper relation to the eye, as though it belonged to a human subject, and acquiring accuracy and skilfulness in holding and manipulation of the instruments. Other requisites are good vision, steady hand, perfect illumination, coolness and judgment in difficulties and a full appreciation of his responsibilities. Perhaps the mention of the need of good vision on the part of the operator may seem absurd. It seems inconceivable that any man would approach an operation on the interior of the eye with vision insufficiently acute to give him perfect control of the situation; yet it has happened within my own experience and will happen again. Imperfect vision leads to nervousness and nervousness to disaster. When possible the illumination should be by means of a portable electric lamp of sufficient power, intelligently held by an assistant so that the light shall be reflected into the patient's eye and the surgeon's eyes protected. Thus the annoying corneal reflexes incident to daylight will be avoided. A steady hand is indispensable. If trembling exists its causes should be learned and removed. If it is stage fright the temptation to operate should be resisted until greater familiarity gained by observation of others and repeated practice on animal eyes assures the necessary composure. Intemperance in living, too much smoking or drinking must be controlled and one's habits so regulated that one's physical condition may be fit for the great responsibility assumed. No surgeon has the right to jeopardize the successful result of his operation by thoughtlessness and disregard of precautions. These statements, platitudes though they seem, are worth thinking about and acting on. We operate in sterile gowns, with sterile instruments, using sterile collyria, the field of operation sterile and the body protected by sterile sheets, carrying out with great precision all the regulations suggested in the canons of antiseptic surgery and yet ourselves go to the operating table unprepared and physically unfit.

For patients with uncomplicated senile cataract, long preliminary residence in a hospital or undue postponement of the time appointed for operation is both unnecessary and harmful, particularly to those who are nervous and despondent. The new environment, the consciousness of the impending operation, the isolation of blindness and the fear of the operation and its results induce baneful mental excitation. Twenty-four hours before operation gives sufficient time for thorough physical examination, including urinary analysis and antiseptic preparations; indeed, three or four hours may be enough when one is familiar with the patient's state of health or has had him under observation.

DOES PRELIMINARY IRIDECTOMY CONTRIBUTE TO A SUCCESSFUL RESULT?

Operators who invariably perform simple extraction in uncomplicated cases disbelieve in the procedure of preliminary iridectomy for the assigned reasons that the dangers of two operations are greater than those of one, and that two should be avoided when one will suffice. To the unprejudiced mind this reason is not convincing. The real question is: Are the dangers of the simple or combined extraction less than those of extraction preceded by iridectomy? This subject was fairly presented to the Section by Reber in 1906. The majority of opinions collected by him favored preliminary iridectomy in complicated cataracts, in immature cataracts, and when the patient had but one eye.

A personal expression of opinion may be permitted. I prefer to perform preliminary iridectomy when all conditions permit, the patient's time, his degree of blindness or the length of time he may count on useful vision in the other eye, to a certain extent his social and financial status, his willingness to leave the decision to my judgment or, otherwise expressed, his confidence in me not only as an oculist but as a man who will advise for his patient's best interests. This statement of preference applies to the so-called uncomplicated cataracts, those cases in which most operators do not consider preliminary iridectomy. I believe it is the safest method of operating, else why is it preferred when the patient has but one eye? Iridectomy is a simple procedure and easy to perform. Under complete cocain anesthesia it is absolutely painless. Recovery is prompt and in most cases certain. Prolapse of the iris is almost never seen. Entanglement of the iris in the corneal wound is rare; the wound is small and closes in a few hours. If postoperative inflammation develops it is of milder grade than that following completed extraction. The subsequent extraction is simplified, a decided advantage to both patient and operator. For immature cataracts demanding operation preliminary iridectomy is positively indicated, and I can not agree with those operators who assert that as good visual results can be obtained by other methods, except possibly the extraction of the lens in its capsule.

During the past year I have performed preliminary iridectomy many times, extracting the lens three weeks to three months later. The results have been so satisfactory that I am convinced that the procedure is the operation of choice. I am not positive that the lens grows more rapidly opaque, but I have come to think that the operation may be classified among the ripening operations without their disadvantages. Haessig, whose experience has been very great, says: "Of the operation of extraction after preliminary iridectomy, every phase of the operation, the cystotomy, the expression of the lens, the expulsion of the cortical masses, can be performed without disturbance. The condition of the iris may be readily seen, there is less temptation to squeeze the lids, and undesirable complications—as loss of vitreous, eversion of the corneal flap—are seldom met.[1]

WHEN IS A CATARACT MATURE?

Technically the cataract is ripe when it is entirely opaque. For the purposes of operation (complete extraction) it is mature when the nucleus and the cortex are no longer distinct, but are united into one body, so that after corneal incision, well directed and accurately estimated pressure on the cornea will dislodge and expel the entire lens. In the pathology of cataract this stage is reached when "the lens finally breaks down into a pultaceous mass consisting of drops of fat, Morgagnian spheres, remains of lens fibers and an albuminoid liquid; fluid collects in separate vacuoles between the lens substance and the capsule of the lens, finally separating the capsule entirely from the cortex so that the lens can be shelled out of its capsule in cataract extraction."[2] Therefore, the time best adapted for operation is not when the entire lens is opaque, but when it is hard and its different parts adherent to one another and not to the capsule. The occasion of this final culmination of the formation of cataract varies greatly in different individuals and depends both on the underlying cause of the lenticular opacity and on the senility of the patient. Some boys reach maturity at an earlier age than others; some men are older than their years. It is stated in text-books that a cataract is soft before the patient is 25 and hard after 35 years of age. This implies that needling is the proper operation in the former, extraction in the latter. We are led to believe that after 55 or 60 at the latest the lens is hard enough to extract entire, whether opaque or transparent. The constitutional changes incident to advancing years must be considered in their application to cataract and allowance made for individualities.

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[1] Mitteilungen ueber die letzten 500 Extract. 1908.

Miss A., aged 35. Preliminary iridectomy followed in one week by extraction. No lens debris. V. 20/70. Old corneal opacities.

Mr. S., aged 62, iridectomy in February, extraction in June. No complication in either operation. Lens matter in anterior chamber, chronic iridocyclitis and glaucoma.

Thus one patient, at an age long before the lens is believed to be hard enough to extract entire, recovered promptly and fully, and the other, beyond the prescribed age, had a bad result because the lens was not solid. The degree of opacity of the lens is not a substantial basis for judgment of its degree of solidity. I have removed without difficulty an almost transparent lens from the eye of a woman of 55, and I believe the experience is common to find as late as the seventieth year, lenses entirely opaque but with soft and tenacious cortices. My observation has led me to believe that in corpulent patients the lenses harden only very late, while in meager, emaciated persons the lens seems to partake of the sclerosis of other tissues of the body. The influence of intraocular disease in hardening the lens is problematic. That it induces opacity is well known, but the process is one of degeneration from malnutrition rather than a sclerosis. The answer, then, to the question, "When is a cataract mature"? resolves itself into the simple statement: The proper time for the extraction is to be determined by the degree of the loss of vision. Extraction may be performed at any age, the condition present in each individual case to decide the method adopted.

POINTS IN REGARD TO METHOD

Of the unavoidable causes of failure, such as intraocular hemorrhage, uncontrollable patient, coughing, disease of the eyeground, infection, postoperative delirium and accidents therefrom, it is beside the purpose of this paper to speak. The number of losses may be materially reduced by the operator's impersonal consideration of the qualities of character and temperament and the ocular and bodily health of the patient. For example, in the preliminary training, he may learn the chances of the patient's will or power to rotate the cornea downward. If these are unfavorable, general anesthesia should replace cocain anesthesia. It is my custom to assure my patient that if he will do as I tell him he will positively have no pain and, in all probability, a successful result, but that it is essential to success that I have his cooperation.

The speculum is left in place throughout the entire operation provided I see no indication of loss of vitreous, but in about 50 per cent. of cases I remove it after the capsulotomy. The indications are restlessness, pressure by the speculum on the ball, gaping of the wound and a sight of the vitreous in close proximity to the posterior lip. An assistant's services should be confined, in the case of obedient patients, to handing the instruments in their order to the operator. It is quite unnecessary for him to aid in the operation itself. Fixation is made during the section only; iridectomy and capsulotomy are more safely made without fixation. Expulsion of the lens is satisfactorily accomplished by pressure through the lower lid, and, as an accessory, if advisable, a spoon placed against the sclera posterior to the wound. The toilet is a matter of great importance. Its function is not only to restore the pillars of the coloboma but to cleanse the wound of lens matter, invisible shreds of capsule and clots of blood. Imperfect toilet means delayed union, cystoid cicatrix, and possibly infection. Lens debris not capable of removal by manipulation may be washed out by warm salt solution forcibly injected into the anterior chamber by a small-mouthed pipette, and if, after convalescence is well established, the anterior chamber still contains flocculi, dionin in increasing strength will bring about their absorption.

In conclusion, a word concerning imperfect local anesthesia—a prolific cause of accident. A 4 per cent. solution of cocain hydrochlorate applied freely to the conjunctival sac four times at intervals of four minutes, the lid closed after each instillation, insures complete anesthesia of the conjunctiva, cornea and iris. The corneal epithelium is not disturbed nor is the tension of the ball altered. The partial dilatation of the pupil is not a disadvantage; on the contrary, it contributes slightly to the facility of the performance of iridectomy and capsulotomy, and, in simple extraction, the passage of the lens through the pupil.

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ABSTRACT OF DISCUSSION

DR. H. DICKSON BRUNS, New Orleans: It gives me a great deal of pleasure that Dr. Hansell—*it is impossible to say mon chère maitre* in English—separated as we have been by 25 years of time and by 1200 miles of space, has arrived through his still greater experience at exactly what I have arrived at as to preliminary iridectomy. I believe I could add one or two advantages of this practice to those Dr. Hansell has already enumerated. After we have made a preliminary iridectomy we have learned something of the patient's morale; we know how he will conduct himself. In the second place, we have been able in a large degree to train the patient and the patient finds the ordeal is not such a terrible one as he anticipated. In the third place, the actual extraction is bloodless; there is no obscuration of the field of operation during the time we are actually extracting. And in the fourth place, and I regard that as of the most importance, the operation is completed with the least possible loss of time, especially if one opens the capsule with the point of the knife, as is my invariable habit. I think no operator of experience will doubt that the sooner the operation is over, other things being equal, and the bandages placed on the eye the better for the patient.

I disagree with Dr. Hansell on one point. It has not been my good fortune to find always that the iris has been well anesthetized by the installation of cocain. I believe I have tried it in every possible way, but not exceeding a 5 per cent. solution for a cataract extraction. In a number of cases anesthesia is produced, but in another series of cases it is not. Fearing I had not carried out the directions of Dr. Hansell, before I left home I took occasion to try it, following minutely his directions. I did not obtain absolute anesthesia. This is important, because it is usually at the moment you grasp the iris and are about to cut it off that the patient moves and brings about a serious complication. Having used an injection of a solution made up of 10 minims of 1 to 1000 adrenalin, 10 minims 4 per cent. cocain and 20 minims normal salt solution in a large number of enucleations, and always in tenotomies and advancements, and being struck with the perfect anesthesia produced, I was led to try 5 minims of that fluid subconjunctivally at the place where we make the fixation, and I have found in this way, even in cases in which I am about to make an iridectomy for glaucoma, that absolute stony anesthesia can be produced. I have been trying it in a large number of cataract extractions and with success so far as the operator is concerned.

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[2] Gibbon's Diseases of the Eye, 1905.

Dr. G. C. Savage, Nashville, Tenn.; An incision in extracting cataract is not so good when it fails to include the conjunctival flap. Keeping that flap out of the way while making the iridectomy is a very easy matter. Usually the aqueous that has escaped through the corneal incision is enough to moisten the flap so that if it is turned down on the cornea it will adhere; but if it does not do so, then by dropping a drop of sterile water on the conjunctiva and upper part of the cornea the flap can be turned over and it will adhere and be out of the way. This is a little thing but is important. I have made a beautiful conjunctival flap and in doing the iridectomy have clipped it away. Now that danger is absolutely removed. I would not fail to make a conjunctival flap in cataract extraction, and the bigger the flap the better I am pleased. I do another thing that I have never seen anyone else do, but probably a thousand of you are doing it, and that is that I may make just as little and just as short pressure on the eyeball as possible in extracting the lens. I transfix the lens from behind the moment it enters the wound and lift it out. Stopping all pressure makes unlikely any escape of vitreous. I have heard authors of papers say that the cases in which vitreous has escaped were among their best cases, but I have never seen a man who wanted the vitreous to escape. The flap should be replaced, but should this be neglected it will go back over the line of the incision and cover it just as beautifully and just as well as though it had been intentionally replaced. If the flap covers the line of the incision there will be better healing and less postoperative astigmatism.

Dr. W. B. Marple, New York: I agree with Dr. Hansell in reference to the advantages of a preliminary iridectomy. There is no question but what the healing after an extraction where a preliminary iridectomy has been done is much more prompt and attended with much less irritation. The only possible objection is that it subjects the patient to two operations, and I have usually found that my patients dreaded the second operation much less than the first. One great advantage of the preliminary operation is that you find out much about your patient at a time when lack of self-control is attended with much less risk than if the whole operation were done at one sitting.

I operated two years ago on a man on whom, on account of certain complications, I decided to do a preliminary iridectomy. The patient was a man of large affairs and I anticipated that he would be an ideal patient. To my surprise he was quite the reverse; was uncontrollable and squeezed so hard that I am sure if I had had a section large enough to extract the lens he would have emptied his globe. As it was I did the iridectomy without any accident. After his recovery from the preliminary operation I took him in hand and trained him not to squeeze with the speculum in his eye, and subsequently did a successful extraction, which I am sure I would not have done had I attempted to do the iridectomy and extraction at one sitting. Among the patients on Blackwell's Island who can not be depended on my invariable rule is to do the preliminary operation first. I can not agree with the statement that iridectomy can be made absolutely painless; at least that has not been my experience. It is for this reason that among this class of patients I do the preliminary operation. If there is any pain then it will be at a time when my section is small and squeezing can do no harm. I am sure if I had a cataract I would want a preliminary iridectomy done. Like Dr. Hansell, my custom is to decide the proper time of operation by the degree of visual impairment.

Major Elliot of India, in the last volume of the Transactions of the Ophthalmologic Society of the United Kingdom, describes his method of opening the capsule before he makes his section. Although I have never done this, the reasons he gives for so doing seem good ones and I shall try it. I think that is a distinct advantage to instill adrenalin before commencing with the cocain, as suggested by Major Herbert.

Dr. Lucien Howe, Buffalo: To obviate the difficulty in keeping the eye still, I have had a pair of very small forceps constructed on a principle apparently that we have not so far employed. These do not fix the conjunctiva; but they are intended to grasp the external and internal rectus muscle tendons. After that is done we can depress the forceps out of the field of operation.

Another difficulty is that after the lens reaches a certain position it tends to catch there. When this occurs the lens can be lifted out by a pair of fine iris forceps having the blades bent in such an arc that when they close they sink into the lens, and enable it to be easily withdrawn. In some cases—but not always—they help.

Dr. Mark D. Stevenson, Akron, Ohio: One hour before operation my patients, especially if nervous, are given an appropriate dose of one of the bromide salts, which serves to quiet them. If there is no contraindication, a hypodermic injection of morphin and atropin is given 15 minutes before operation further to quiet the patient, reduce pain and relieve after-soreness. Thorough anesthesia is necessary, and in addition to placing a few drops of cocain solution in the eye, I inject a few drops of 0.5 per cent. cocain and 1 to 5000 adrenalin chlorid under the conjunctiva immediately over the cornea. I have never had the cornea fall in from the use of this injection.

I feel much safer with a conjunctival flap which quickly fixes the corneal section. It is more easily made after the formation of a bleb by the hypodermic use of cocain. In total enucleation of the lens, lensectomy—the so-called Indian operation—it should be very small and only at the summit. The remaining capsular tags form one of the chief objections to the old operation, and one of the most important arguments for removal of the lens in its capsule. If capsulotomy is to be done, it should be done definitely with a sharp cystotome, only two cuts being necessary, more making tags.

Dr. G. Oram Ring, Philadelphia: In the ultimate analysis after all it is our duty to give the patient the benefit of our experience as to what produces the finest results. Those of you who know me well know I usually advise a preliminary iridectomy, and a result after a good many years of experience that will give me less than 1 per cent. of failures, is sufficiently good to tie to. I approve almost *in toto* of what Dr. Hansell has said. It seems to me it is a splendid conservative note to give to the young men after a long experience. I am inclined to question the advisability of doing the operation with electric light. I feel that the flash of the electric light on the sensitive retina might produce straining and loss of vitreous. When I can get good natural daylight I greatly prefer it. Sometimes under pressure one must use electricity. As to the strength of the cocain, with a 4 per cent. solution I, like a number of others, failed to get complete anesthesia, and I now habitually use an 8 per cent. solution with much more satisfactory results. It is now my almost invariable habit to remove the speculum immediately after the initial incision and I believe this procedure helps me to avoid straining on the part of the patient, and therefore largely eliminates loss of vitreous.

Dr. O. Tydings, Chicago: There seems to me to be three extrinsic sources of trouble in every cataract extraction. One is now practically eliminated in every well-regulated operating room. I refer to infection. Another is the danger of loss of vitreous by pressure of the lids on the globe. This can be avoided by the use of the Fisher's lid elevator, an instrument which I have used for some years without the loss of vitreous in a single case. It eliminates the possibility of the loss of vitreous or damage to the globe by lid compression. The third source of trouble is in advising the patient to look downward, which is next to lid compression in danger to vitreous. Instruct him to look straight ahead and he will do so. By observing these rules the three extrinsic sources of danger in cataract extractions can be avoided. I can not too strongly emphasize this, because when danger is imminent it is too late to remove a speculum from an unruly patient; uless you have someone holding the speculum who is trained in that kind of work; while with the lid elevator it is a physical impossibility for any patient to do himself an injury.

Dr. A. R. Baker, Cleveland: In early years I not infrequently had cases of delirium following cataract extraction. By placing the patients in the hospital the day before the operation and letting them sleep in the bed they are to occupy and become acquainted with their surroundings, nurses and the house physicians, I have found that delirium is practically eliminated. I became convinced years ago that it was unnecessary to use a speculum and for six or eight years I have been making my extractions without one. I grasp the tendon of the superior rectus muscle with my fixation forceps and it is surprising how easy it is to control the eye. It keeps the lid out of the way and the incision can be made much more accurately and better than by any other method. If one wants to make a conjunctival flap it is the easiest thing in the world, while before it was not. In doing away with the speculum, one nearly always avoids the escape of vitreous. In other respects I manage my cases as recommended by Dr. Hansell. I like the preliminary iridectomy as a matter of choice. In any case in which I have doubts about the behavior or physical or mental condition of the patient I insist on it.

Dr. A. E. Davis, New York: Insane patients are extremely nervous, but I have operated on a number without general anesthesia. The conjunctival flap gave me much better results than any other plan because in twelve hours the wound would be closed. Some patients would pull off the dressings. I do not agree with Dr. Savage, however, in regard to handling that flap so easily. If you have a rather large flap and turn it down over the cornea you can not see the iris at all. However, that does not disturb me because I rarely perform an iridectomy. In these difficult cases I find the flap method decidedly the best and I have done nothing else, and in an experience of twenty-five cases I have lost only one. The patient promised to be very good, but became violent on the table and destroyed the eye, after the operation was performed, and before the dressing could be applied.

CLINICAL DIAGNOSIS OF THE SYPHILOGENOUS DISEASES OF THE CENTRAL NERVOUS SYSTEM *

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I beg, first of all, to express my acknowledgment of the great honor that has been shown to me in inviting me to speak before a circle of medical men and scientific workers in a country so renowned for its rapid progress in every branch of culture.

Neurology, whose representatives are here assembled, owes much to America, which has largely advanced our knowledge of this department of science on many highly important points.

At the annual meeting of the German Society of Nerve Specialists, held last October in Heidelberg, I summed up our position with reference to the light thrown by recent research on the clinical diagnosis of the syphilogenous diseases of the central nervous system. To-day I beg to submit to your consideration the question whether and to what extent our views on this subject have undergone change since then.

Hamburg presents copious material for the study of syphilogenous nervous diseases. Within the last six months I had forty-seven cases of tabes dorsalis under observation for the four reactions; that is:

1. Pleocytosis.
2. Increase of globulin (Phase I).
3 and 4. Reaction of deviation of complement in the blood serum and spinal fluid after Wassermann.

How frequently cases of tabes dorsalis imperfecta occur is shown by the fact that out of these forty-seven cases nineteen were imperfecta or rudimentary tabes. By this I mean combinations of single symptoms which occur already in incipient tabes; that is, pupil anomalies, absence of tendon reflexes, gastric crises, etc.; the cases showed no progressive tendency and were of many years' standing.

In these forty-seven cases of tabes dorsalis a distinct lymphocytosis was missing only seven times. Four of these 7 cases were cases of tabes imperfecta, 2 were pronounced tabes and 1 was an incomplete case grafted on hereditary basis. The father had died of general paralysis on a syphilitic basis, and the patient himself showed the hereditary form of keratitis interstitialis.

This tabes data show, in conformity with my former 101 cases and with cases taken from literature by myself on former occasions, that pleocytosis is one of the most regular signs of tabes. It confirms further that pleocytosis occurs just as regularly in the "imperfect cases" as in the advanced cases of tabes; further, that it may be missing in progressed just as in imperfect cases.

The reaction Phase I has been just the same in these data during the last six months. It also was missing only seven times and in the same seven cases in which pleocytosis was absent; namely, in 2 advanced, in 4 imperfect and in the hereditary case. In conformity with my former experiences up to October, 1908, the material examined, it seems to me, shows that reaction Phase I is equivalent to the pleocytosis reaction. This reaction is so absolutely simple that I can warmly recommend it to this circle of competent experts.

During the last six months I examined seventeen cases of general paralysis for pleocytosis and Phase I. Only in one single case did I not find both reactions. This was a case of juvenile hereditary paralysis, with hereditary double lateral chorioiditis disseminata. Plaut also, as well as Sachs, and Noguchi in New York, demonstrated this negative result—each in a case of paralysis. We may say that both reactions exist in paralysis with hardly any exceptions; in this disease, too, the two reactions are equivalent. This is equally true whether the cases are advanced or imperfect—that is, rudimentary—cases. My new experiences are absolutely in line with those of former days. With regard to the many doubtful cases of tabes and paralysis there exists rather a difference in the numerical quantity of cases that come within the practice of neurologists. Here I need hardly say what I mean by this. On the other hand, we have cases in which trifling and uncharacteristic disturbances of the intellect are combined with anomalies in connection with the pupils or with reflex anomalies, cases showing light apoplectiform attacks with anomalies of the pupil, cases of interior ophthalmoplegia with positive history of syphilis; on the other hand, cases with subjective symptoms of spinal neurasthenia with one or two other not fully developed spinal symptoms, such as imperfect pupil reaction, diminution of the tendon reflexes, difficulty in mic-

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

turition, etc. Of these cases, I have seen 10 since October, 1908; in 5 pleocytosis was missing, while Phase I was missing three times and was doubtful once.

I can only repeat what I have said once before, that these cases require further observation, because they must establish the value of the two methods. I have already placed about seventy of these doubtful cases under my further observation and shall not fail in due time to give account of them either personally or through my pupils.

Now follows cerebral and cerebrospinal syphilis, the pure form of which is apparently rare—rarer than has been hitherto assumed. Since October, 1908, I have been able to examine only eighteen cases. Among these eighteen cases, both reactions, pleocytosis and Phase I, were missing only three times, both in the same cases. These statements also confirm my former ones and those in literature.

How do my latest experiences in reference to the occurrence of pleocytosis and Phase I affect those diseases which practically offer the greatest difficulties in differential diagnosis from the diagnosis of syphilogenous diseases of the central nervous system? I am thinking of multiple sclerosis, idiopathic epilepsy, neurasthenia with previous syphilis, pseudotabes alcoholica, tumor cerebri! In cases of multiple sclerosis evidence was again furnished in ten new cases that pleocytosis does occur, though seldom. Formerly I had found it in 23 per cent. of the cases and I had collected 24 per cent. from literature on the subject. I now found marked pleocytosis once and weak pleocytosis twice; that is, together 30 per cent. Formerly I found Phase I in 45 per cent.; now I found it twice among ten cases; that is, in 20 per cent. In multiple sclerosis the occurrence of the two reactions was simultaneous in two cases, whilst in the third case pleocytosis without Phase I was found; here it is confirmed that the two reactions are not the determining factor in the differential diagnosis between multiple sclerosis and cerebrospinal syphilis; for most frequently pleocytosis is marked in cerebrospinal syphilis and is weak in multiple sclerosis; the reverse is not seldom the case.

Idiopathic epilepsy I have examined thirty-one times for both reactions since October, 1908. Pleocytosis I found only once; Phase I, three times, quite weak. I can say, in summing up my former and my recent experiences, that, in cases of idiopathic epilepsy, both reactions prove a rare exception to the rule and that they are missing in the majority.

Cerebral neurasthenia without syphilis I have examined three times and syphilis also three times; only in one case did I find both reactions positive, and this case was rather suggestive of incipient cerebral syphilis. It is again shown that both reactions are of great value for the differential diagnosis between cerebral and spinal neurasthenia, on the one hand, and dementia paralytica and tabes dorsalis, on the other.

A conclusive confirmation of my former statements is afforded by ten further cases of pseudotabes alcoholica. Two of these cases gave a history of syphilis. In all ten cases both pleocytosis and Phase I were absent, which was in marked opposition to the otherwise absolutely positive results in tabes and paralysis.

Now let us take the cases of tumor cerebri which require differential diagnoses. During the last six months I have examined no less than sixteen of these cases; eleven of these were submitted to postmortem examination; the diagnosis was, therefore, conclusive. Among these eleven cases, pleocytosis was positive three times and Phase I four times. In three cases both reactions were positive; in one case only Phase I was positive. In the five cases in which there was no necropsy, lymphocytosis was invariably absent, while Phase I was twice positive. This, in the main, confirms the results of my former research, namely, that pleocytosis and Phase I occur in the small minority of cases of tumor cerebri.

Cases of "pupil-fixation" presenting partly objective or subjective symptoms, but not such as to justify suspicion of tabes or paralysis, are very interesting, as they do not necessarily imply syphilis. As formerly, I also found with four new patients that in cases of unconfirmed syphilis (three cases) the reactions were absent and in the case of syphilis (one case) they occurred.

I shall not touch on other cerebrospinal diseases in which the differential diagnosis between syphilitic and metasyphilitic nerve diseases do not come into question.

It has often been confirmed and may be accepted as proved that pleocytosis and Phase I either do not occur at all in such cases or only in rare instances, and when they do occur, only to a very small degree. Speaking from two of my own cases, I make an exception to this statement as regards idiopathic hydrocephalus. I will also point to one other disease for the diagnosis of which Phase I reaction would prove important, should my experiences, based on three cases, be confirmed by further observations—that is, compressing extramedullary tumors show marked Phase I reaction without lymphocytosis.

On the subject of the value of the complement-fixation reaction which has been applied by Wassermann, Neisser, Bruck and Stern for diagnostic purposes in syphilis, much has been written during the last two years. It may be accepted that this reaction is not specific for syphilis; it is not specific in the sense in which it was held to be by the first classic authors.

This opinion has also been expressed by workers on this subject in the United States—Butler, Fleischmann, Mefford, Lapowski, Fisher, Pedersen, Sachs and Noguchi, among others.

I will not neglect to mention here that the Hamburg scarlet-fever findings, after first lacking confirmation, were later on confirmed in other quarters—above all by Neisser's collaborator, Bruck, and were recently again recognized in Neisser's laboratory by Pürckhauer.

On the one hand, the syphilitic antigen may be replaced by non-syphilitic organ extracts and certain chemical substances, and, on the other hand, the inhibition (*Hemmung*) of the hemolysis which results from "fixation" of the complement may also take place in the case of diseases which are not syphilogenous, but are either certainly or presumably traceable to the presence of protozoa or bacilli.

It is admitted to be reliable in the case of leprosy and malaria; as regards scarlet fever the same is accepted by many as a fact. Muck and Eichelberg, of Hamburg, being the pioneers.

But the explanations offered on the subject differ with different authors (Bruck and Cohn, Klopstock, Seligmann and others).

In one case in my own ward the fact that an attack of scarlet fever had been passed through was first discovered by means of the Wassermann blood reaction, which was verified by further inquiry. I wish especially to point out that in this case all controls were exacted. A report of the case has been published by Holzmann.[1] The same precautionary measures were observed in the remaining scarlet-fever cases, which were accepted as positive by Muck and Eichelberg after the Heidelberg discussion, so that the objections advanced by Plaut in his recently published excellent and exhaustive book on the significance of Wassermann's reactions in the department of psychiatry do not apply to these. Since Bruck, the collaborator of Wassermann and Neisser himself has accepted it, the controversy on the subject of the occurrence of the Neisser-Wassermann reaction in scarlet fever may be regarded as closed, in spite of the fact that Wassermann and G. Meier, as also Galewski and Schild, recently again stated that, except in the case of leprosy, the reaction takes place only with syphilis, and in spite of the fact that Wassermann himself upholds the specificity of the reaction.

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[1] Holzmann: München. med. Wchnschr., 1909, No. 14.

Control experiments, which were conducted in Hamburg and Breslau, that is, in the serologic laboratory of the Eppendorf Hospital and in the laboratory of the Dermatologic Clinic in Breslau, resulted as follows: Of scarlet-fever serums, three in Hamburg and three in Breslau reacted positively. The same result was obtained twice out of six malaria serums in Hamburg, and the same in Breslau. The trustworthiness of the Hamburg experiment was also evidenced by the fact that all of the same class of serums, belonging to syphilitic subjects, whether examined in Hamburg or in Breslau, reacted in an equal manner. With this, the statement of Wassermann, made in Heidelberg in connection with Muck and Eichelberg's statements on their positive findings in scarlet fever, namely, that these findings could be accounted for only by faulty technic, may be considered as sufficiently contradicted to satisfy the objective critic.

Holle, so long the collaborator of Wassermann, has declared as follows: The deviation of complement reaction is not specific to syphilis; it is, however, characteristic of it. Hecht, of Prague, has stated the same, and I can only associate myself with these, as my later remarks will show. I say, with Lapowsky: The reaction is not specific in the bacteriologic sense, but is clinically characteristic of syphilis.

A large number of rules must be observed if faulty results are to be avoided. These rules have gradually arisen as the natural outcome of a long series of laborious experiments, as they naturally must with any new method. The absolute necessity for control experiments of more exacting technic for the verifying of early results, as suggested by ripened experience, is obvious to every one who engages in work of this difficult nature.

I will not enlarge on the necessary precautionary experimental measures, as this would lead too far to-day, and because Fleischmann and Butler[2] have described them minutely in THE JOURNAL of the American Medical Association. I will only state here that the most reliable authorities have found no certain difference between the use of watery and alcoholic extracts.

1. The extract and the hemolytic system must also be tested and estimated with several definite and suspected syphilitic serums.

2. For the purpose of controlling the hemolytic test, 0.4 c.c. of the serum to be examined must be used instead of the 0.2 c.c. which is required to produce reaction, in order to be quite sure that the serum in itself does not [illegible]

3. As [illegible] used alcoholic extract derived fro[illegible]philitic fetus. We dissolved it quickly, not in gradations, as Sachs in Frankfurt does.

4. The blood which is to be examined must be taken in the morning, as experience has taught us that blood serum may become cloudy and milky after a plentiful meal and so as to give too positive results.

5. In practice, reaction with active serum is impracticable, as it too frequently produces a positive reaction. The serum to be examined must, therefore, be rendered inactive; that is, warmed for half an hour at 58 R. (72.5 C.) before using.

6. According to several control researches of ours, serum and liquor remained in good condition about four or five days either at room temperature or on ice, provided they were not shaken too much. Even sending the fluid which was to be examined by rail from Hamburg to Breslau and back or to other remote places did not in every case render the serum useless for examination purposes, while after strong shaking it always gave positive reactions. After four or five days the results become untrustworthy, as in this case, just as after strong shaking, both serum and liquor may themselves act antagonistically. Sheep's blood, amboceptor (sheep blood corpuscles injected into rabbits) and extract (antigen) keep for a considerable time on ice, the amboceptor keeping longer than the extract; but before use they must be always examined.

7. The sheep's red corpuscles must be fresh and thoroughly washed; that is, they must be centrifugalized several times with salt solution.

8. It must be further controlled whether the extract and the hemolytic system are antagonistic as such, and in exercising this control both the exact quantity and double the quantity required for a reaction must be used.

In face of the experimental researches published before autumn, 1908, as well as since then by F. Lesser, Ledermann, Hecht, Behring, Bruck and Cohen, Bauer and G. Meier, Galewski, Rostoski, Blaschko and Kolle, and in face of the results obtained by my newer research, I consider myself to be in a position to state that the reaction is now sufficiently matured for medical practice, in spite of the fact that this is denied by Seligmann, Halberstätter and Fisher (Dresden). The technic is as yet so complicated and is so surrounded by sources of error that it can be undertaken only in a laboratory and by persons who are experts.

I should like to take you again over the material that I have examined in Eppendorf since October, 1908.

TABES DORSALIS

I have hitherto found that the complement deviation reaction took place in the blood in 90 per cent. of the cases and in the spinal fluid in about 50 per cent. On this point I found myself in agreement with early observers. I wish to amend this statement on one point: I missed the Wassermann reaction in 4 of 26 complete cases of tabes; that is, it was missing in 16 per cent.; and in 21 cases of tabes imperfecta the reaction was missing 9 times; that is, in 43 per cent.

My material of the last six months proves that the percentage of positive Wassermann reactions is not always as high as appears according to other statistics, and it also proves that the Wassermann reaction is more often absent in the tabes imperfecta cases than in the complete cases. At the same time the Wassermann reaction of the blood serum was missing just in two long-standing complete cases. This could be accounted for by a previous energetic specific treatment.

Very noteworthy is a case presenting a history of "chill" tabes without syphilis which had developed after a fall into cold water. This case also gave the Wassermann reaction in the blood, as well as pleocytosis and Phase I, while the spinal fluid reacted negatively.

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[2] Fleischmann, Paul, and Butler, William J.: Serum Diagnosis of Syphilis, THE JOURNAL A. M. A., Sept. 14, 1907, xlix, 934.

At all events, according to my experience, pleocytosis and Phase I occur in tabes dorsalis more frequently than the blood reaction of Wassermann, and the harmony displayed by these reactions was not so marked as I was led to conclude in October, 1908.

One quite new result has, however, been demonstrated. In the forty-seven recently examined cases I found the Wassermann reaction positive in the spinal fluid in only two instances, and one of these two cases, a case of imperfect tabes which was stationary for ten years, was complicated with severe morphinism. This is extremely striking. As I mentioned before, I formerly found deviation of complement in the spinal fluid in about 50 per cent. of the cases.[3]

There is little literature on the subject; in almost all publications either the blood serum reaction alone is discussed, or it remains doubtful whether blood serum or spinal fluid is meant. It is urgently desirable that in further work on this subject serum and spinal fluid should be strictly differentiated, for in the autumn of 1908 it was already manifest that the reactions obtainable from these two fluids were by no means the same.

Only Rostoski, Schultz and latterly Plaut declare that the spinal fluid often gave the Wassermann reaction in tabes; it must, however, be pointed out that Plaut did not see clinically the cases of tabes which he examined serologically, or only to a very limited extent, and that in the cases of Schütze several cases of tabes were complicated with paralysis; that in one case there was also a combination with chronic morphinism, and that in several other cases a combination with paralysis was not to be excluded.

Still, Rostoski, speaking from his own experiences, declares that in tabes, paralysis and cerebrospinal syphilis, a positive Wassermann reaction is still forthcoming in the spinal fluid in cases in which the blood reaction may be obscure, or even negative. This assertion remains completely unsupported; agreement already existed on the point that the fluid gave the Wassermann reaction much more seldom than the blood serum. Plaut declares in his new book that he found the Wassermann reaction in the spinal fluid seven times in eleven cases; stress must, however, be laid on the fact that Plaut did not examine these cases himself.

I claim for my present experiences that they are conclusive, for both our research-technic and experiences have essentially matured and widened. I also wish the fact to be taken into account that my results in regard to the other organic nervous diseases are in accordance with those of other authors, as I will demonstrate later on. I would here like most earnestly to point out the necessity for further research. I feel firmly convinced that he who employs methods absolutely free from objections will attain results identical with mine. It was known from the first that the complement deviation reaction occurred with considerably less frequency in the spinal fluid than in the blood serum, but that the occurrence of the reaction in the fluid is such a rare exception that its absence may be regarded as characteristic of tabes dorsalis, is an entirely new conception and is attended with considerable influence in medical practice.

We then made control experiments with watery extract, because we usually employed alcoholic extract. In some few instances it was found that the utilization of watery extract of syphilitic liver gave so faint a trace of a positive reaction in blood serum, whereas the *alcoholic* extract had given a negative Wassermann reaction, that it could not be registered as certainly positive. At all events this much is certain: that in tabes the Wassermann reaction occurs very seldom in the spinal fluid, and when it does occur is very weak, indeed. The case bears an entirely different aspect from that of dementia paralytica. Formerly I found the Wassermann reaction in the blood and in the spinal fluid in 90 per cent. of the cases. During the last six months I have found in twenty cases that the blood reacted positively in every single case, and the spinal fluid I found only once negative. These results are in absolute accordance with Plaut's experiences. It is desirable that further research should be made in regard to this discrepancy between the behavior of the spinal fluid in the case of paralysis, on the one hand, and in the case of tabes, on the other. That my findings will meet verification I feel convinced from the perfect constancy of my results.

It appears to be the future mission of the Wassermann reaction as applied to the spinal fluid to act as an important diagnostic factor in arriving at a differential diagnosis between paralysis and tabes, while the remaining three reactions are common to both diseases.

In the case, however, of hereditary paralysis—that is, of dementia paralytica on a hereditary syphilitic soil—the Wassermann reaction appears to fail at times. At all events, I failed to obtain it in three out of the four cases which I have encountered since I first began to examine for the Wassermann reaction. In Heidelberg I referred to the fact that Stertz and Plaut had confirmed this.

To the two cases of hereditary syphilis of the central nervous system which likewise only gave negative spinal fluid reaction after Wassermann, I can add a further case. This was that of a child with paralysis accompanied by hereditary syphilitic interstitial keratitis. The father had died of paralysis on a syphilitic soil.

It is true that the objection may be advanced that these cases are not cases of paralysis at all, but of congenital cerebral syphilis. This can be decided only by necropsy, and then only with careful microscopic examination.

Plaut says in his book that the absence of the Wassermann reaction in the blod almost absolutely excludes the diagnosis of paralysis, and its absence in the spinal fluid does the same. Speaking from my own experience, I can only reaffirm this statement.

A special case under my own observation proved to me the importance of the simultaneous appearance of all four reactions for the differential diagnosis of paralysis. The case is that of an actor, aged 66, who had suffered from syphilis thirty years previously.

He presented the typical clinical picture of senile feeble-mindedness and did not display a single somatic symptom of paralysis, but all four reactions were exquisitely positive. The necropsy demonstrated chronic leptomeningitis, granulation of the ependyma of the lateral ventricles; in other words, suspicious evidences of paralysis. Dr. Ranke, privat docent of Nissl's clinic of psychiatry in Heidelberg, was kind enough to examine the brain microscopically. The characteristic changes of paralysis were very marked and very diffuse. Dr.

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[3] I again went over the cases which were at the time registered by me as positive. These were nine cases. With the most searching and far from partial criticism, only one case remains of which it can be said that no grounds for the diagnosis of an incipient paralysis exist. A really classic complete case of paralysis was altogether wanting among the nine cases. In 4 instances the failure of the pupil-reflex was unilateral; 4 cases showed tendon-reflexes of the lower extremities—in 3 cases these were even exaggerated; one case was complicated with chronic anterior poliomyelitis; in 2 instances there was absence of tendon-reflexes in the lower extremities with a syphilitic history.

Ranke laid special stress on the fact that there were no signs of cerebral syphilis, but that it was a clear case of paralysis.

On the other hand, two cases showed me the value of the failure of the Wassermann reaction to appear in the blood and the spinal fluid as *giving grounds for refusing to accept the diagnosis of paralysis*. In the first case a man was brought into my ward, suffering from disordered intellect and slight delirium with signs of megalomania. The pupils were unequal and did not react to light, and the tendon reflexes were exaggerated; furthermore, he gave a history of syphilis and displayed specific scarring of the skin. Of the four reactions, only lymphocytosis and Phase I were positive, while blood and spinal fluid gave negative Wassermann reactions. An exact history was wanting. The patient lay about a week in this state. The autopsy demonstrated meningitis tuberculosa. In the second case the history of syphilis was doubtful. The patient presented a case of simple dementia with delusions of grandeur. His tendon reflexes were exaggerated, his pupils did not react to light and convergence tests, there was weak innervation of the right facialis and indistinct speech; in this case all four reactions were negative. Necropsy demonstrated a large tumor in the left frontal lobe.

One case which presented appearances strongly suspicious of incipient paralysis, yet giving no spinal fluid reaction after Wassermann, developed later on left interior ophthalmoplegia, which tipped the scale in favor of a diagnosis of cerebral syphilis. Plaut also reports a case which, from the clinical appearance, he took to be alcoholic dementia, yet it gave positive Wassermann reactions both in the blood and in the spinal fluid; the case then developed into an unmistakable paralysis.

In the same way the two reactions of two cases which were held to be cases of maniacal depression pointed to paralysis; and another one with syphilitic history and insufficient pupil reaction without Wassermann reaction in the blood and in the spinal fluid, pointed to simple mania in a syphilitic person.

In sixteen cases which presented suspicious symptoms *of tabes and paralysis, the Wassermann* reaction was positive ten times in the blood and three times in the spinal fluid. These cases I have placed together with over seventy other cases for further observation. The course of these cases will retrospectively furnish us with valuable experience as regards the diagnostic value of lymphocytosis and Phase I.

Among my collected data of tabes I have only seen three cases in which all four reactions were negative. All three cases presented the picture of tabes imperfecta, and the diagnosis was, moreover, open to doubt; so that these three cases were not calculated to disprove with certainty the statement that the absence of all four reactions practically never occurs in tabes dorsalis.

In imperfect cases of paralysis I never obtained negative results in all four reactions. What I twice observed in such cases was the absence of the Wassermann reaction in the spinal fluid.

I sum up, therefore, as follows: The Wassermann reaction in the blood and in the spinal fluid is as delicate a test for acquired paralysis as pleocytosis and Phase I; and equally characteristic of tabes is the absence of the complement deviation in the spinal fluid with positive pleocytosis, Phase I and Wassermann reaction in the blood serum.

I have also examined four children whose parents presented a past history of syphilis. These children merely exhibited the general constitutional signs of a high degree of nervousness without displaying any objective somatic abnormalities in the nervous system. In one case the mother suffered from an aortic aneurism; in another case the father had died of paralysis. In one case the *mother had tabes imperfecta*, and in the fourth case both parents had tabes imperfecta. Only in one case, the second of this series, the child's blood showed a positive Wassermann reaction. No tests were made with the other three reactions.

With the Wassermann reaction in tabes and paralysis I had the same experience as with the pleocytosis and Phase I: the reaction was the same in complete cases as in incipient cases, the same in rapidly progressing as in slowly progressing and stationary cases. In this connection, the reactions are useless for purposes of prognosis—herein I quite agree with Plaut.

Experiments for the purpose of comparing the intensity of the Wassermann reaction in the blood and in the spinal fluid have demonstrated that no constant relation exists on this point. I believe that further experiments will show the same negative result.

Plaut gives expression in his book to the hope that a want of harmony between the Wassermann reaction in the blood and in the spinal fluid may perhaps be utilized for diagnostic purposes. I myself can not share this hope, as my experience hitherto gives me no grounds for doing so.

For paralysis I have never seen a change of the positive Wassermann reaction in the blood and in the spinal fluid following on antisyphilitic treatment. A case which showed this reversal, which was first held by me to be paralysis, proved afterward to be that of a syphilitic suffering from alcoholic paralysis (Korsakow's psychosis with chronic polyneuritis).

Now I must touch on cerebrospinal syphilis. Among my ten cases observed since October, 1908, the spinal fluid reacted only once positively, and in this case the reaction changed to negative after an inunction treatment. The blood serum reacted negatively only twice. These two cases, however, were not quite homologous. I *must not neglect to emphasize the fact that* in two of the above-mentioned sixteen cases, autopsy in one case and trephining in the other, confirmed the diagnosis of gummatous cerebral syphilis.

I must emphasize still more strongly than I have done before, or than Stertz and Wassermann and Plaut[4] did in 1908, that the typical result of the four reactions in the different forms of cerebrospinal syphilis (meningitis, arteritis and gumma) is this: that along with pleocytosis and Phase I the Wassermann reaction is positive in the blood and negative in the spinal fluid. Hence it follows that the same result is shown in cerebrospinal syphilis as in tabes, which, owing to the negative result of the Wassermann reaction in the spinal *fluid, differs from the result obtained in paralysis*. The opinion to which I inclined formerly was that the negative result of the Wassermann reaction in the spinal fluid would, in many cases, guide us in the differential diagnosis between tabes and spinal or cerebrospinal syphilis. This hope, however, has not been confirmed by later experiences. In this I am in opposition to Plaut, who still upholds the differential diagnostic value of the spinal fluid reaction in tabes, on the one hand,

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[4] Plaut now states that the Wassermann reaction in the spinal fluid is as rare in syphilis of the nervous system as it is frequent in paralysis. He *obtained positive* Wassermann *reactions* 19 times in the blood of 20 cases, and 3 times in *the spinal fluid*. We must therefore conclude that in syphilis of the nervous system in rare cases the blood can react negatively and the *spinal fluid positively*.

and in cerebrospinal syphilis, on the other. Further researches must elucidate this point; but it must be insisted on that in the examination of the cases selected both the neurologists and the serologists are trustworthy.

I must briefly mention that all six examined cases of pseudotabes alcoholica without a history of syphilis gave a negative Wassermann reaction in the blood and spinal fluid. I am bound, therefore, to acknowledge that in Wassermann's reaction we have the same valuable additional factor for the differential diagnosis in the case of tabes as we have in pleocytosis and Phase I.

In the same way, in all nine cases of cerebral arteriosclerosis, whether associated with senility or presenility, the blood and spinal fluid reacted negatively.

I now come again to those three diseases which are of particular interest, not only because they offer special difficulties in the way of the differential diagnosis for cerebrospinal syphilis, but because they also differ *inter se.* These are: (1) multiple sclerosis, (2) idiopathic epilepsy, and (3) cerebral tumor.

As I had formerly with all these diseases obtained no results which afforded striking evidence in favor of the differential diagnostic value of the Wassermann method, I felt myself bound to institute further researches in this connection. These have been productive of essentially satisfactory results for us medical practitioners. In ten cases of multiple sclerosis I obtained only one positive Wassermann reaction, and this only in the blood. As both pleocytosis and Phase I were also present in this case, the four reactions together presented the typical phenomena of spinal or cerebrospinal syphilis. This case confirms a former observation of my own which also presented the Wassermann reaction in the blood, whereas my newer observation did not confirm my former one as regards the occurrence of the Wassermann reaction in the spinal fluid.

Plaut also found in one case of multiple sclerosis that the blood serum reacted positively. Sachs found cerebral syphilis in the postmortem examination of two cases, which he had diagnosed as multiple sclerosis in spite of the fact that he had obtained a Wassermann reaction.

At all events, we now can state that in a case of doubtful differential diagnosis the occurrence of the Wassermann reaction in the blood as well as in the spinal fluid should nearly exclude the diagnosis of multiple sclerosis.

According to my further experiences, the case for the practical value of the Wassermann reaction is still more favorable in connection with idiopathic epilepsy. I examined thirty-two cases of idiopathic epilepsy free from any discoverable syphilis for the Wassermann reaction. The reaction was not once positive in the spinal fluid of these thirty-two patients. In the blood serum I found it positive five times. In the formerly examined nine cases I found that the spinal fluid never once reacted positively, but the blood reacted positively five times. But the material now presented for examination is most instructive. I will, therefore, shortly describe the five cases presenting positive blood serum reactions.

In the first case the father had been syphilitic prior to marriage and his blood still gave the Wassermann reaction.

The second patient in course of time developed a pronounced ataxia of the lower extremities with *hypotanys;* this became associated with double olfactory failure. These cerebral symptoms gave way to a course of inunction treatment. *It may, therefore,* be taken as certain that the diagnosis of cerebrospinal syphilis was the correct one, the more so as pleocytosis and Phase I were also present.

In the third case severe epilepsy had likewise developed in a hitherto perfectly healthy young man of 17. Bromid did no good, but *traitement mixte* effected a cure, and it was later on discovered that the father had a history strongly suggestive of syphilis.

In the fourth case, in which out of the four reactions only the Wassermann reaction in the spinal fluid was negative, in spite of the fact that there were no somatic symptoms, the suspicion that it was a case of developing organic syphilogenous disease could not be rejected, owing to the presence of severe headaches and owing to the fact that epilepsy had not set in until the thirty-eighth year of life.

Only the fifth case afforded nothing noteworthy.

These experiments have led me to hold the opinion that in cases of idiopathic epilepsy which are free from syphilis, the complement reaction in the blood is absent, while where the reverse is true this fact indicates the syphilogenous nature of the epileptic attacks, or indicates that the epileptic attacks are precursory symptoms of a developing cerebrospinal syphilis. I am in agreement with the statement of Plaut in his book on this point.

As regards the non-occurrence of the Wassermann reaction in the blood in cerebral tumor without a syphilitic history, I maintained a skeptical attitude six months ago toward the statements of Stertz and others, which was justified by our own experience in eight cases; I have made further researches on these lines. I hold it to be correct to confine statements to such cases of cerebral tumor, in which the postmortem examination has confirmed the diagnosis. Since October, 1908, I have had eleven postmortem cases of cerebral tumor placed at my disposal. In all eleven cases the reaction had been negative in the spinal fluid and was positive only once in the blood serum, and this case is especially instructive, because we had during life taken hers for a case of cerebral syphilis, as she exhibited a periosteal node on the forehead which had shown rapid retrogression after inunction treatment.

The following three cases are also very instructive:

CASE 1.—A woman of 40 had become blind twenty years before the time of observation as a result of gradual optic atrophy; the pupils did not contract to light, the tendon reflexes were absent and the history pointed suspiciously to syphilis. I felt firmly convinced that we were dealing with a case of stationary tabes; all four reactions were, however, negative. The autopsy revealed an anatomically benignant cerebral tumor in the hypophysis.

CASE 2.—The case of a middle-aged man showing a history pointing to syphilis was diagnosed as a possible case of paralysis because the patient was in a state of chronic bewilderment, had indistinct speech and his pupils did not react to light and convergence; there was no swelling of the optic disc. All four reactions were negative. The autopsy showed a large infiltrating tumor in the left cerebral hemisphere.

CASE 3.—A man of 30 suggested the diagnosis of tumor in the right lateral motor area of the cortex. There was no history of syphilis. In this case pleocytosis, Phase 1, and the Wassermann reaction in the blood-serum were positive. The trephining of the skull demonstrated, both macroscopically and microscopically, that the supposed tumor was a gumma.

The summary of my conclusions to-day is as follows: *In the case of cerebral tumor without the complication* of syphilis, the blood serum and spinal fluid react negatively as to the Wassermann reaction.

All the cases which I examined of neurasthenia without past history of syphilis were negative to all four reactions. My experiences during the last months only confirmed my former ones. Those cases showing a syphilitic history exhibited feeble pleocytosis; half of them gave positive Wassermann reaction in the blood, none of them in the spinal fluid, and none of them showed Phase I.

I should like to enumerate here several interesting and important single observations, as we have yet much to learn in this comparatively new field of research.

In cases of conjugal tabes I twice found that the blood reaction occurred positively in only one of the married couple, once in the man and once in the woman.

Twice I encountered a negative condition of pleocytosis and Phase I in a case of dementia paralytica, and a week later found both to be positive on examination. I twice experienced the same thing with the Wassermann reaction in the spinal fluid in cases of paralysis. Plaut mentions the same experience. From this we draw the conclusion that it will be expedient to repeat the puncture in cases in which the reaction is contrary to expectation—a proceeding which, however, would often be attended with difficulties.

In one case of very severe syphilis of the spinal cord, which gave the typical result—that is, pleocytosis and Phase I and blood reaction after the Wassermann—and which had cleared up perfectly from a clinical point of view, it was found, when the patient came, after a year's interval, to report herself, as perfectly healthy and normal that all four reactions were now negative. This case might be used to demonstrate an ideal case of cerebrospinal syphilis which had responded to treatment.

It would be well if, in the near future, research were done on a large scale with the object of deciding the relations existing between pleocytosis and Phase I and the Wassermann reaction in the spinal fluid. In the meantime we must accept as true that no reciprocal relations exist between them. It is true they occur simultaneously in dementia paralytica. Still, the cases of paralysis (which, it must be admitted, are very scanty) in which lymphocytosis and Phase I, or one of the two reactions, are missing, but above all the absence of the spinal fluid reaction in tabes and in cerebrospinal syphilis, prove that the occurrence of pleocytosis and Phase I does not necessitate the occurrence of the spinal fluid reaction, and *vice versa*.

It would be a further task to work out the family groups, the numbers of which will increase in the course of research directed to this point, in regard to the reactions. Plaut and I have made the beginning of this work.

Working with more copious material, it must be further decided whether the cases of syphilogenous nervous diseases on a hereditary syphilitic basis are different with regard to the four reactions from the cases of acquired syphilis. A series of observations conducted by Stertz, by Plaut and by myself allow this to appear possible. Above all, search must be made for the reason why the spinal fluid reacts so differently in tabes and in paralysis.

I believe that I have shown the practical use that neurology has so far made of these four reactions.

SUMMARY

I sum up once more as follows:

Paresis gives almost invariably all four positive reactions.

Tabes shows almost invariably pleocytosis. Phase I and Wassermann reaction only in the blood; the same is true of the different forms of cerebral and cerebrospinal syphilis.

In these enunciations is expressed the value of the four reactions as applied to the differential diagnoses between neurasthenia with and without a syphilitic history.

For the differential diagnosis between cerebrospinal syphilis and cerebral tumor without a syphilitic history, the Wassermann reaction is of extreme value—yes, even conclusive in that it is negative both in the blood and in the spinal fluid in the latter. Where the patient with cerebral tumor has a syphilitic history, the Wassermann reaction is valueless. Pleocytosis and Phase I play no decisive part in the differential diagnosis between cerebrospinal syphilis and cerebral tumor. The Wassermann reaction occurs in multiple sclerosis in the spinal fluid not at all and in the blood serum so very rarely that this fact does not come into consideration.

On the other hand, the appearance of pleocytosis and Phase I is not so rare in multiple sclerosis as to render this reaction of value in the differential diagnosis of syphilis.

The occurrence of the Wassermann reaction in the blood in presumable idiopathic epilepsy should give rise to grave doubts against the diagnosis and should render it extremely likely that the condition is a syphilogenous one (paralysis or cerebrospinal syphilis or epilepsy with syphilitic history). The same holds good for pleocytosis and Phase I.

In the case of pseudotabes alcoholica without a syphilitic history, the four reactions practically never occur. Their absence may, therefore, be safely regarded as conclusive in the case of tabes.

All remaining organic diseases of the brain and spinal cord I can consistently pass over, as none of these diseases enter into diagnostic conflict with the syphilogenous diseases of the nervous system.

At Heidelberg last October I stated that I could give only an abstract of my views, but that further research would either confirm or modify them.

Time has already proved me to be right in my conclusions; the greater part have been confirmed; many, including some very important points, have become modified.

I think, however, that I am to-day in a position to state that the essential points will not become obliterated and that we can now state what the four reactions are capable of doing and what they can not do.

Whoever has experience of the results obtainable from these four reactions will not now demand from them that they shall under all circumstances enlighten him on the following points:

Whether the dubious complex of symptoms presented by a patient with a syphilitic infection is derived from the presence of cerebrospinal syphilis or multple sclerosis, or whether, in the case of a patient with a syphilitic record, the dubious symptoms owe their presence to a specific cerebral syphilis or to a cerebral tumor. This is possible only when all four reactions are negative. In both instances, however, the ensemble of pleocytosis and Phase I and the positive Wassermann reaction in the blood would not solve the diagnostic problem.

As little would the experienced worker demand from the four reactions that they should inform him whether the case in question was tabes alone or a case of tabes in conjunction with spinal syphilis.

More is to be demanded from the differential diagnosis between paralysis and tabes, on the one hand, and neurasthenia (either with or without a past history of syphilis), idiopathic epilepsy or the pseudotabic form of chronic alcoholism (either with or without a syphilitic history), on the other hand.

If at present our conclusions on the subject of the behavior of the four reactions in the course of clinically diagnosticable organic diseases of the brain and spinal cord are established, further research must be directed toward the examination of the doubtful cases; that is, it must follow them up until their diagnosis is conclusive or until the autopsy reveals the truth.

Case 4.—Syphilis eight years ago; severe headaches during last six months without any discoverable cause; neuropathic picture; no somatic abnormalities. All four reactions negative. The balance inclines in favor of the diagnosis of functional headache of syphilis.

Case 5.—A spastic complex of symptoms not pointing to multiple sclerosis in the case of an elderly man, in all four extremities; no evidence of syphilis. All four reactions negative. Here one would expect no signs that the spastic complex of symptoms was the expression of syphilis in the brain and spinal cord.

Case 6.—An otherwise healthy subject with no syphilitic history, suffering from severe headaches, which do not respond to any form of treatment. The somatic nerve condition is negative. Pleocytosis and Phase I show negative results; the Wassermann reaction negative in the spinal fluid but positive in the blood. The case directs suspicion to syphilis on account of the headaches.

Case 7.—Patient had syphilis ten years ago; seeks advice on account of depression and insomnia. The only objective symptom is miosis, and the pupils do not react to light. Lymphocytosis and Phase I are markedly positive, the Wassermann reaction negative in the blood and in the spinal fluid. What will this prove to be? Can we here exclude paralysis and tabes? Paralysis with a great degree of probability, but not tabes.

Case 8.—Dementia. The patient had syphilis ten years ago. Symptoms suggest paralysis of basal nerves. Of the four reactions only Phase 1 is positive. Improvement of dementia and of the paralysis after specific treatment. Is this a specific or non-specific basal process of the brain?

Up to now I have placed over seventy cases under control. I believe that the patient recording of just such cases will help us in the diagnostic application of the four reactions, until the necessary experience has been gained, even though this may extend over many years.

Plaut, with his extensive experience, emphasizes the same in his book, which is written in an objective and sound critical spirit. He also says that the diagnostic value can be really established only after many years of careful work; he is, therefore, like myself, entirely free from an overhasty optimism.

In medical practice it has been shown that all four reactions have their value, but only in the sense that no single one can be taken as conclusive by itself. Used, however, in combination, and then only when all factors which have any bearing on the subject are taken into consideration, they are of value in individual cases.

In their combined application the four reactions represent an exceedingly valuable implement which we can not wish nowadays to miss, the less so as their application enables us to arrive at a diagnosis in an earlier stage than heretofore of just those syphilogenous diseases of the nervous system that are so significant in medical practice.

[The Discussion on this paper will appear later with the other articles in the Symposium.]

BENIGN TUMORS OF THE TURBINATED BODIES CLINICALLY AND PATHOLOGICALLY CONSIDERED *

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Excluding nasal polypi, which are really edematous hypertrophies, partaking of the character of soft fibromata, benign tumors of the turbinated bodies are very rare. In speaking of true papillomata of the nasal cavities Wright says that he doubts if more than twenty cases thus differentiated from papillary hypertrophies can be found in rhinologic literature. "I have seen less than half that number, though a much larger number of specimens, referred to me with that clinical diagnosis, subsequently proved to be fibrous hyperplasia rather than epithelial hyperplasia." He also says:[1] "While it occasionally occurs in and about the nasopharynx, fibroma springing from the nasal structures is exceedingly rare. In 32,997 patients examined, only 2 fibromata of the nose appeared." In five years M. Schmidt, in the examination of 16,244 patients, found 4 fibromata of the nose, all in males; 14 papillomata (8 men, 6 women); 11 cysts (5 men, 6 women); 2 lymphomata (1 man, 1 woman), and 2 angiomata (1 man, 1 woman). In seven years Auerbach saw 3 nasal adenomata, 2 of which sprang from the anterior end of the middle turbinated body; all 3 tumors completely filled the nostrils and had to be removed piecemeal. Heyman describes 6 such cases under the name "*gutartiges Epitheliom*" and emphasizes their rarity. In a special practice of eight years I have seen clinically 3 benign tumors of the turbinated bodies: I have examined pathologically 3 more benign growths referred to me by other rhinologists. Of the 6 patients 4 were females and 2 males; their ages ranged from 12 to 60 years. Because of the infrequency of such growths I shall refer to them briefly:

Case 1.—A woman, aged 60, consulted Dr. H. Harlan for nasal obstruction and persistent headache. Examination of the nose revealed a large irregular growth attached the entire length of the middle turbinated body. Under cocain anesthesia, the mass was removed *in toto*.

Tumor.—The actual dimensions of the tumor after remaining in alcohol for some time were as follows: Length 4.5 cm., width 3 cm., thickness 1 cm. Dr. Harlan referred the growth to me for microscopic examination. When small pieces were removed for hardening, the knife gave the impression of a fibroma. Sections stained with hematoxylin and eosin and examined with low power showed essentially an outer epithelial covering and an inner structure of fibrous tissue surrounding islands of glands. With the high power the epithelial covering was seen to consist of columnar ciliated cells: the fibrous tissue was thick and ran in different directions and at some points invested the glands so closely as to give the impression of a carcinoma. So numerous were the glands that it was difficult to decide whether they or the fibrous tissue predominated. The microscopic *diagnosis* was fibroadenoma of the middle turbinated body.

Case 2.—A woman aged 50, had difficulty in breathing through the nose and severe asthmatic attacks. In the nasopharynx was a large, round, grayish tumor imparting a doughy sensation to the probe. The color and general appearance reminded one of a fibroma, but the age of the patient was against such diagnosis. The point of attachment could not be seen. In introducing the index finger into the nasopharynx to work the snare around the mass, there was a sudden rupture of the tumor with the escape of a dark, grumous fluid. The walls of the cyst were then removed as well as possible with cutting forceps. A few days later the attachment of the cyst was found to be the posterior end of the right, inferior turbinated body.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] American Text-Book of Diseases of the Eye, Ear and Throat.

Tumor.—The pieces removed were hardened in alcohol. Sections were stained in hematoxylin and eosin; they were made up of connective tissue covered internally and externally with cylindrical epithelium.

CASE 3.—A girl, aged 12, was referred to me by Dr. Hiram Woods for nasal obstruction. Examination of the nasopharynx showed a tumor which seemed to fill the left posterior naris. In the nostril the growth sprang from the posterior, internal surface of the inferior turbinated body. After removal the specimen was misplaced and was not examined microscopically. It was probably a fibromyxoma. The attachment of the growth to the inferior turbinated body would seem to contradict Killian's claim that all such tumors have their origin in the antrum and grow out into the nostril.

CASE 4.—A club shaped tumor, attached by a small pedicle to the posterior end of the right, inferior turbinated body, was removed by Dr. J. F. Crouch and referred to me for microscopic examination. Sections were made by Dr. L. J. Goldbach. The outer covering was columnar epithelium; internally the tumor was made up of fibrous tissue and blood vessels of various sizes. The tumor was a pure fibroma.

CASE 5.—A tumor as large as a sparrow's egg, attached to the inferior turbinated body by a small pedicle, was removed by Dr. J. R. Winslow. Microscopically, the outer covering was columnar epithelium; the growth proper was made up of connective tissue, glands and venous sinuses of various shapes and sizes filled with blood. No bone was present. From the formation of the tumor it could only be classed as a supernumerary turbinated body.

CASE 6.—A girl, aged 17, had long been unable to breathe through the nose. Examination of the nasopharynx revealed adenoids and a long tumor springing from the posterior end of the left inferior turbinated body and extending to the border of the soft palate. The growth externally was covered with columnar epithelium while internally fibers running in different directions were seen. The diagnosis was fibroma.

Papillomata of the nasal structures are usually small and cause few or no symptoms. That at times they may simulate the stubbornness of such growths in the larynx is proved by three cases reported by Wright:

Case 1 was seen by Verneuil in 1886. A woman of 42 had papillomatous masses projecting from the nostril; the nasal arch was widened into the frog face. The growths were repeatedly cleaned out by intranasal procedures and as promptly recurred. An external incision opened up the nasal cavity; the mucous membrane was thoroughly curetted and much of the turbinated tissue removed. There were multiple recurrences and operations.

In Case 2 a woman of 45, five months after an injury, had growths projecting from the nostril. On examination sessile, papillary growths covered the upper and anterior surface of the right nasal chamber extending over the middle turbinated body. The tumors were removed with the curette many times. Histologically, the tissue did not differ from a typical papilloma except in the profusion of epithelial proliferation.

Case 3 was similar to Case 2.

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When we consider the etiology of nasal tumors we have to admit that we are no farther advanced than when Cohnheim gave his theory to the world. Chronic inflammation has been blamed as an etiologic factor; we see this condition in the nose more frequently than in other parts of the body, but all varieties of tumors are comparatively rare. The nose is exposed to all manner of injuries so that trauma can scarcely be given a place in the etiology. A few years ago Williams advanced a modification of Cohnheim's theory which is original and plausible. He believes that certain cells are stored up in the body as reserve cells and are controlled by a definite force which is always active, provided the body is in good physical condition. If, however, the organ suffers from malnutrition from any cause the cells are no longer under control but grow, not reproducing their kind but forming neoplasms. He holds that all tumors are cellular in character, not inflammatory.

If the symptoms of benign growths in the nose are analyzed carefully it will be found that not infrequently they simulate certain phenomena seen in malignancy. Thus there may be complete obstruction, pain from pressure, hemorrhage and occasionally frog-face deformity in both classes of tumors. In some cases it is not possible to make the diagnosis from the clinical symptoms. A few months ago a patient was referred to me with a large growth in the left nostril. Another rhinologist had made the diagnosis of fibroma from the clinical symptoms; microscopic examination showed that the tumor was a small round-celled sarcoma. In this case the only clinical symptoms were nasal obstruction and the presence of a growth, both of which were found in Case 1 of my series.

In the diagnosis of nasal tumors the microscope is of such importance that I believe it can not be too strongly emphasized that all tissue removed from the nose should be examined microscopically. By so doing we will not only increase the statistics of benign tumors, but will occasionally be surprised to find that a growth clinically benign and harmless is really malignant. Wright, Douglass, Rosenheim, Winslow and others have added their testimony as to the value of the microscope. Rosenheim aptly says: "The use of the microscope as a means of diagnosis has been much neglected by those especially interested in the diseases of the nose and throat. Jonathan Wright has recently called attention to its value as a routine measure."

In conclusion, I wish to call attention briefly to the possibility of the transformation of benign into malignant growths. There is much to be said on both sides of the question. M. Schmidt believed that the change was possible but very infrequent. Cobb and Semon claim that no case has been reported which proves the transformation. Watson collected 150 cases of sarcomata of the nasal passages, among which there was a previous history of polypi in 24. On the other hand, sarcomata have been found on the septum, where polypi almost never occur. In the cases of transformation reported there is always a lack of data concerning the growth from its inception or all parts of the tumor were not carefully ex-neurasthenia (either with or without a past history of syphilis), idiopathic epilepsy or the pseudotabic form of chronic alcoholism (either with or without a syphilitic history), on the other hand.

If at present our conclusions on the subject of the behavior of the four reactions in the course of clinically diagnosticable organic diseases of the brain and spinal cord are established, further research must be directed toward the examination of the doubtful cases; that is, it must follow them up until their diagnosis is conclusive or until the autopsy reveals the truth.

CASE 4.—Syphilis eight years ago; severe headaches during last six months without any discoverable cause; neuropathic picture; no somatic abnormalities. All four reactions negative. The balance inclines in favor of the diagnosis of functional headache of syphilis.

CASE 5.—A spastic complex of symptoms not pointing to multiple sclerosis in the case of an elderly man, in all four extremities; no evidence of syphilis. All four reactions negative. Here one would expect no signs that the spastic complex of symptoms was the expression of syphilis in the brain and spinal cord.

CASE 6.—An otherwise healthy subject with no syphilitic history, suffering from severe headaches, which do not respond to any form of treatment. The somatic nerve condition is negative. Pleocytosis and Phase I show negative results; the Wassermann reaction negative in the spinal fluid but positive in the blood. The case directs suspicion to syphilis on account of the headaches.

CASE 7.—Patient had syphilis ten years ago; seeks advice on account of depression and insomnia. The only objective symptom is miosis, and the pupils do not react to light. Lymphocytosis and Phase I are markedly positive, the Wassermann reaction negative in the blood and in the spinal fluid. What will this prove to be? Can we here exclude paralysis and tabes? Paralysis with a great degree of probability, but not tabes.

CASE 8.—Dementia. The patient had syphilis ten years ago. Symptoms suggest paralysis of basal nerves. Of the four reactions only Phase I is positive. Improvement of dementia and of the paralysis after specific treatment. Is this a specific or non-specific basal process of the brain?

Up to now I have placed over seventy cases under control. I believe that the patient recording of just such cases will help us in the diagnostic application of the four reactions, until the necessary experience has been gained, even though this may extend over many years.

Plaut, with his extensive experience, emphasizes the same in his book, which is written in an objective and sound critical spirit. He also says that the diagnostic value can be really established only after many years of careful work; he is, therefore, like myself, entirely free from an overhasty optimism.

In medical practice it has been shown that all four reactions have their value, but only in the sense that no single one can be taken as conclusive by itself. Used, however, in combination, and then only when all factors which have any bearing on the subject are taken into consideration, they are of value in individual cases.

In their combined application the four reactions represent an exceedingly valuable implement which we can not wish nowadays to miss, the less so as their application enables us to arrive at a diagnosis in an earlier stage than heretofore of just those syphilogenous diseases of the nervous system that are so significant in medical practice.

[THE DISCUSSION ON THIS PAPER WILL APPEAR LATER WITH THE OTHER ARTICLES IN THE SYMPOSIUM.]

BENIGN TUMORS OF THE TURBINATED BODIES CLINICALLY AND PATHOLOGICALLY CONSIDERED *

RICHARD H. JOHNSTON, M.D.
BALTIMORE

Excluding nasal polypi, which are really edematous hypertrophies, partaking of the character of soft fibromata, benign tumors of the turbinated bodies are very rare. In speaking of true papillomata of the nasal cavities Wright says that he doubts if more than twenty cases thus differentiated from papillary hypertrophies can be found in rhinologic literature. "I have seen less than half that number, though a much larger number of specimens, referred to me with that clinical diagnosis, subsequently proved to be fibrous hyperplasia rather than epithelial hyperplasia." He also says:[1] "While it occasionally occurs in and about the nasopharynx, fibroma springing from the nasal structures is exceedingly rare. *In 32,997 patients examined, only* 2 fibromata of the nose appeared." In five years M. Schmidt, in the examination of 16,244 patients, found 4 fibromata of the nose, all in males; 14 papillomata (8 men, 6 women); 11 cysts (5 men, 6 women); 2 lymphomata (1 man, 1 woman), and 2 angiomata (1 man, 1 woman). In seven years Auerbach saw 3 nasal adenomata, 2 of which sprang from the anterior end of the middle turbinated body; all 3 tumors completely filled the nostrils and had to be removed piecemeal. Heyman describes 6 such cases under the name "*gutartiges Epitheliom*" and emphasizes their rarity. In a special practice of eight years I have seen clinically 3 benign tumors of the turbinated bodies; I have examined pathologically 3 more benign growths referred to me by other rhinologists. Of the 6 patients 4 were females and 2 males; their ages ranged from 12 to 60 years. Because of the infrequency of such growths I shall refer to them briefly:

CASE 1.—A woman, aged 60, consulted Dr. H. Harlan for nasal obstruction and persistent headache. Examination of the nose revealed a large irregular growth attached the entire length of the middle turbinated body. Under cocain anesthesia, the mass was removed *in toto*.

Tumor.—The actual dimensions of the tumor after remaining in alcohol for some time were as follows: Length 4.5 cm., width 3 cm., thickness 1 cm. Dr. Harlan referred the growth to me for microscopic examination. When small pieces were removed for hardening, the knife gave the impression of a fibroma. Sections stained with hematoxylin and eosin and examined with low power showed essentially an outer epithelial covering and an inner structure of fibrous tissue surrounding islands of glands. With the high power the epithelial covering was seen to consist of columnar ciliated cells; the fibrous tissue was thick and ran in different directions and at some points invested the glands so closely as to give the impression of a carcinoma. So numerous were the glands that it was difficult to decide whether they or the fibrous tissue predominated. The microscopic diagnosis was fibroadenoma of the middle turbinated body.

CASE 2.—A woman aged 50, had difficulty in breathing through the nose and severe asthmatic attacks. In the nasopharynx was a large, round, grayish tumor imparting a doughy sensation to the probe. The color and general appearance reminded one of a fibroma, but the age of the patient was against such diagnosis. The point of attachment could not be seen. In introducing the index finger into the nasopharynx to work the snare around the mass, there was a sudden rupture of the tumor with the escape of a dark, grumous fluid. The walls of the cyst were then removed as well as possible with cutting forceps. A few days later the attachment of the cyst was found to be the posterior end of the right, inferior turbinated body.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] American Text-Book of Diseases of the Eye, Ear and Throat.

Tumor.—The pieces removed were hardened in alcohol. Sections were stained in hematoxylin and eosin; they were made up of connective tissue covered internally and externally with cylindrical epithelium.

Case 3.—A girl, aged 12, was referred to me by Dr. Hiram Woods for nasal obstruction. Examination of the nasopharynx showed a tumor which seemed to fill the left posterior naris. In the nostril the growth sprang from the posterior, internal surface of the inferior turbinated body. After removal the specimen was misplaced and was not examined microscopically. It was probably a fibromyxoma. The attachment of the growth to the inferior turbinated body would seem to contradict Killian's claim that all such tumors have their origin in the antrum and grow out into the nostril.

Case 4.—A club shaped tumor, attached by a small pedicle to the posterior end of the right, inferior turbinated body, was removed by Dr. J. F. Crouch and referred to me for microscopic examination. Sections were made by Dr. L. J. Goldbach. The outer covering was columnar epithelium; internally the tumor was made up of fibrous tissue and blood vessels of various sizes. The tumor was a pure fibroma.

Case 5.—A tumor as large as a sparrow's egg, attached to the inferior turbinated body by a small pedicle, was removed by Dr. J. R. Winslow. Microscopically, the outer covering was columnar epithelium; the growth proper was made up of connective tissue, glands and venous sinuses of various shapes and sizes filled with blood. No bone was present. From the formation of the tumor it could only be classed as a supernumerary turbinated body.

Case 6.—A girl, aged 17, had long been unable to breathe through the nose. Examination of the nasopharynx revealed adenoids and a long tumor springing from the posterior end of the left inferior turbinated body and extending to the border of the soft palate. The growth externally was covered with columnar epithelium while internally fibers running in different directions were seen. The diagnosis was fibroma.

Papillomata of the nasal structures are usually small and cause few or no symptoms. That at times they may simulate the stubbornness of such growths in the larynx is proved by three cases reported by Wright:

Case 1 was seen by Verneuil in 1886. A woman of 42 had papillomatous masses projecting from the nostril; the nasal arch was widened into the frog face. The growths were repeatedly cleaned out by intranasal procedures and as promptly recurred. An external incision opened up the nasal cavity; the mucous membrane was thoroughly curetted and much of the turbinated tissue removed. There were multiple recurrences and operations.

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In the diagnosis of nasal tumors the microscope is of such importance that I believe it can not be too strongly emphasized that all tissue removed from the nose should be examined microscopically. By so doing we will not only increase the statistics of benign tumors, but will occasionally be surprised to find that a growth clinically benign and harmless is really malignant. Wright, Douglass, Rosenheim, Winslow and others have added their testimony as to the value of the microscope. Rosenheim aptly says: "The use of the microscope as a means of diagnosis has been much neglected by those especially interested in the diseases of the nose and throat. Jonathan Wright has recently called attention to its value as a routine measure."

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919 North Charles Street.

ABSTRACT OF DISCUSSION

Dr. Sylvan Rosenheim, Baltimore: I agree with Dr. Johnston regarding the importance of a microscopic examination of nasal growths as well as of those occurring elsewhere in the body. It is impossible to say anything definite about the character of the growth in the nose from macroscopic examination or from the history early in the case. Recently I was asked to examine a small growth supposedly benign, which had been removed from the septum of the nose by Dr. Samuel Johnston of Baltimore and found it to be a small roundcelled sarcoma. It is only in this way that we can learn anything about the etiology and early diagnosis in this class of cases and prevent recurrence of the growth by complete operation. It furnishes often the only hope of cure.

Dr. George Keiper, LaFayette, Ind.: We should examine every growth that we remove from the nose microscopically, and that has been my custom for some years. By so doing we will change some of our ideas of pathology, which at present is somewhat misleading. I have found for instance, a great many more cases of angioma of the turbinate than we are supposed to have. The same is true with reference to keratosis and hyperkeratosis. We are sometimes able to make a diagnosis in this way when it is impossible by the clinical or macroscopic appearance. In making the examination we should have a piece of the normal tissue adjacent to the growth in order to compare the two; otherwise we will sometimes make great errors.

Dr. J. E. Logan, Kansas City: I agree with Dr. Johnston in his statements regarding the use of the microscope as a diagnostic agent in determining the kind of growths presented for operation. We often find apparently benign growths to be really malignant. This fact has come to my notice more than once. We should take from these growths a large piece for examination being sure to reach beyond the cortex. I had one case in which a growth was diagnosticated a spindle-cell sarcoma by one pathologist and a fibroma by another, after a very small piece had been removed for examination.

Dr. Otto Glogau, New York: It is important to make a proper examination of the growths removed from the nose. I remember one dispensary case of turbinal hypertrophy in which the malignancy of the growth was not suspected, but in which microscopic examination showed that it was a sarcoma of the inferior turbinate. The patient, who had only complained of nasal obstruction and occasional nose bleeding, did not return and we felt very sorry because we had left perhaps part of the growth by removing only the hypertrophied part of the turbinate.

Dr. Roy P. Scholz, St. Louis: I believe that tumors of the turbinates occur much more frequently than is ordinarily thought. This I attribute to the fact that tissue removed from the turbinates seldom receives the proper examination. Recently I was called to attend a case of severe hemorrhage, following a nasal operation. The operator asserted that he had removed a piece of hypertrophied tissue from the posterior end of the inferior turbinate. It was with difficulty that the hemorrhage was checked, and this only by means of a tampon. Something struck me as being peculiar about the case. Hunting up the tissue removed I had it examined and found it to be a lymphangioma. With removal of the tampon there was again bleeding. I then thoroughly removed the remainder of the growth and had only slight hemorrhage. I recall another case in which a tumor springing from one of the turbinates gave a misleading picture. A large tumor mass completely filled the nasopharynx and obstructed the choana, protruding further anterior in the left, then in the right nasal cavity. Even after thorough shrinkage of the parts I was unable to pass a probe between the mass and posterior endge of the septum, so firmly was the tumor pressed in place. On removal (piece-meal with a snare) there was no question as to origin of the tumor, the growth having sprung from the inferior turbinate on the left side, growing over the soft palate into the nasal cavity on the other side. Microscopic examination showed the tumor to be fibroma. In the past year I have had two other cases of small tumors of the turbinates, one a small cavernous angioma; the other specimen was lost in preparation.

Dr. J. J. Holinger, Chicago: There is no question that careful microscopic examinations are sometimes of great value, but on the other hand I think our clinical diagnosis is at least important. A woman had her nose completely obstructed by a tumor mass which at the least touch bled, and I at once had the impression that it was sarcoma. I removed a piece large enough for an examination. The answer from the laboratory was inflammatory swelling. I didn't blieve it. I took out another piece, away up in the region of the middle turbinate, and again I got the answer from the laboratory, inflammatory hypertrophy, this time from a different pathologist. I entered the antrum of Highmore and opened up toward the eye and found then there was no question as to the nature of the growth as the tumor went through the bone and invaded every different class of tissue. A fresh section was made, a frozen specimen, and then a diagnosis of sarcoma was made. In another case I had removed several pieces from the anterior end of the middle turbinate and always got the answer, non-malignant. The frontal sinus had to be opened, but there was no tumor. A year afterward the man died of carcinoma of the frontal sinus which had invaded the meninges and the orbit. There was certainly no tumor at the first operation but only inflammatory changes which would not have been expected to lead to the development of a malignant tumor.

Dr. Emil Mayer, New York: That it is necessary for us always to confer with the pathologist I think no man who has had any experience at all will for a moment gain-say. I agree with Dr. Holinger, however, that it is very important to make one's own clinical diagnosis before conferring with a pathologist. It is but right that we should express our own opinion. Pathologists are just as human as others and one may get from them a second time statements that are at variance with their first ones. I recall a case that was referred to me for examination as to whether an operation should be performed or not. The patient had an intranasal growth. I learned that Dr. Welch had made a diagnosis of rhabdomyoma which was confirmed by another pathologist, while a third pathologist denied that diagnosis and made an entirely different one. It was proved, however, that the first two pathologists were right. A most interesting case of rhinoscleroma appeared in the wards of Mt. Sinai Hospital some time ago. I found thickening below both vocal cords, general induration, and an exudate in the anterior nares which when wiped away, showed some small growths lodged apparently in the upper portion of the inferior turbinate. It seemed to me to be a case of rhinoscleroma and I so stated. I sent a specimen to the pathologist and he reported that he found nothing. I sent a second specimen and he reported rhinoscleroma. What had happened was that at the first time I had not gone deep enough. In the diagnosis of these cases we need the pathologist and he needs our opinion.

Dr. S. G. Minor, Detroit: I think we must all recognize the difficulty that confronts the pathologist in making a diagnosis in these cases, especially as between round celled sarcoma and simple inflammatory tissue. I saw a case about six weeks ago which presented clinically (and in that respect I want to corroborate Dr. Holinger's words about the importance of the clinical appearance) the appearance of sarcoma of the left inferior turbinate and yet the microscopic examination after removing pretty nearly all of the inferior turbinate was that it was a benign growth; yet it recurred in a very short time and then with the clinical history of the case the pathologist switched around and said sarcoma. That was very satisfactory to me but was not so to the relatives, for I had said to them that it was a benign growth. The growth was again removed and the patient put on Coley's mixture and there has been no return. We should not give too much importance to the microscopic findings and disregard the clinical appearance. The pathologist can not always distinguish accurately between inflammatory tissue and round-celled sarcoma.

Dr. T. W. Corwin, Newark: Last winter I saw one case reported as fibroadenoma; a tumor about the size of a hickory nut, occupying the anterior end of the inferior meatus, on the anterior end of the inferior turbinate, which had been largely eroded. When the tumor was removed there was a large cavity at this point but healing was free of any symptoms. Another case I saw was one of a large firm mass occupying the nares of the right side near the vestibule, from the anterior end of the middle turbinate. It appeared as a reddish mass and was diagnosed by the pathologist as fibroma. A large part was removed through the anterior nares. Hemorrhage was very free and the remainder of the operation was postponed. I also encountered a case of what appeared clinically to be an angioma of the inferior turbinate on the left side. The case coming to me first presented a deflection of the septum which was corrected. It was first reported as simple connective tissue. I have since had it reported on as a hemiangiosarcoma. I have also encountered a large mass bleeding exceedingly on the slightest touch, projecting into the nasopharynx, which was supposed to be a sarcoma. In this case I tied the external carotid artery and removed the growth in November, 1908. There was pretty severe hemorrhage. The tumor was an endothelioma of the septum. I have had another case under observation of papillomata, but it has not yet been subjected to microscopic examination.

Dr. W. E. Sauer, St. Louis: I desire to report a case of nasal polypi which I removed; the removal was followed by a very free hemorrhage. I suspected a malignant condition and sent a specimen to the pathologist who reported simple polypi. I sent a section to another pathologist and after diligent search he found cell nests, the tumor proved to be a very malignant carcinoma. The result does not always depend on the amount of tissue that has been furnished, but on how carefully the pathologist does his work.

Dr. Lee Cohen, Baltimore: Some years ago I was interested in a remark made by Dr. Bloodgood in speaking of differentiation of nasal tumors. He spoke of the great difficulties and absolute impossibility of differentiation in many cases. A few months later I had this unpleasantly brought home to me in a case of a man of 50 who came to me with the left nostril completely occluded with a large mass, the site of which I could not determine. It had the clinical appearance of malignant growth. I had a piece examined by the pathologist, and the report sent back that it was round-cell sarcoma. It was subsequently examined by a second pathologist who confirmed the diagnosis of the first. The patient having a son living in a western city, went there on a visit, and while there consulted a specialist in that city, and the growth was considered by that specialist also as a malignant growth. The patient said that if he had to be operated on he would come back to Baltimore. The growth was removed and the base scraped and cauterized with trichloracetic acid. After several days further examination proved the presence of antrum suppuration on that side. The antrum was thoroughly opened and there has been no trouble since and that was five years ago. The pessimistic prognosis, however, that I gave was a great source of annoyance for some time.

Dr. B. Alexander Randall, Philadelphia: I have no personal contribution to make to this subject, nor is the point I wish to bring forward strictly germane to that of non-malignant growths; but I have been interested in the observations of Goodale of Boston, which I think are not sufficiently well-known. The question of Coley's serum has been brought up in the discussion and I would say that while that may have great value in cases of spindle-celled sarcoma we should recognize the point brought out by Goodale that in the round-celled variety he has had some brilliantly good results with staphylococcus inoculation. I think it is a subject of very great importance to us and that it should be better known.

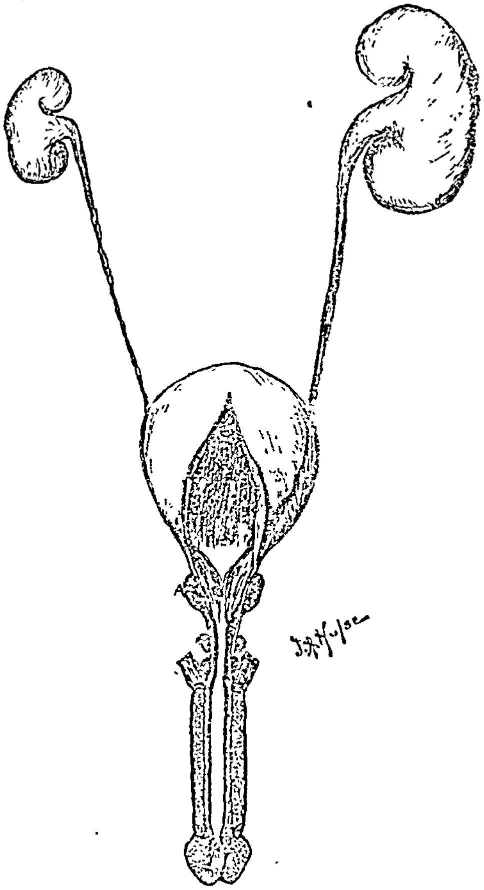
Dr. R. H. Johnston, Baltimore: At the Presbyterian Hospital in Baltimore we examine carefully all tissues removed from the nose and have found that our statistics of these growths are gradually increasing. The reason I presented the matter was to get the opinion of other men as to the frequency of benign growths and the probability of transformation into malignant growths. Of course, I do not mean that the pathologist should make the diagnosis, but he must help us. We must remove the tissue very deeply and should give the pathologist the history of the case as to the development, whether slow or rapid, and help him in any way we can. I have had some experience in pathologic work and know that it is sometimes very difficult to differentiate between sarcoma and inflammatory tissues, but with a careful study of many sections it is possible to make a positive diagnosis. Dr. Mayer is certainly right—we should give the pathologist every chance; if necessary remove several pieces from time to time and allow him to make a thorough examination before giving an opinion.

Clinical Notes

ANOMALY OF THE GENITOURINARY TRACT

JUDSON A. HULSE, M.D.
AKRON, OHIO

The patient, Mr. J. S., aged 61, died of carcinoma of the intestines. Among the postmortem findings was the following anatomic anomaly of the genitourinary tract: The right kidney was small and undeveloped, the ureter non-patulous and truant, opening into the prostatic urethra instead of into the base of the bladder. The left kidney was somewhat larger than normal and evidently did the work of two in a satisfactory manner throughout life.



Genitourinary anomaly. Diagrammatic representation of the comparative size of the kidneys and the position of the ureteral openings. A, opening of right ureter into prostatic urethra.

Had the right kidney been functionating and had this patient undergone a prostatectomy, the surgeon would have been confronted by a perplexing and perhaps serious condition.

The accompanying illustration represents, in a diagrammatic way, the comparative size of the kidneys and the relative position of the ureteral openings.

A REMEDY FOR PAROXYSMAL TACHYCARDIA

H. C. FAIRBROTHER, M.D.
Lecturer on Economics and Medical Ethics, Medical Department, St. Louis University
EAST ST. LOUIS, ILL.

What is meant by the term paroxysmal tachycardia is probably pretty well understood by the profession. It is not the purpose of this article to go into the study of the subject, but only to give the remedy. The name essential paroxysmal tachycardia has been given by recent authors to make the meaning more definite. By this term is meant a sudden jump of the heart beat from the normal to two or three times the normal rate. This rapid rate is maintained for a period of from a few minutes to many hours, and usually without any known cause, and is attended with a feeling of languor, lassitude, weakness and exhaustion. Up to the present *no remedy has been discovered for this malady.* In Nothnagel's Encyclopedia of Practical Medicine, in the volume on diseases of the heart, the author states: "Since we do not know what constitutes the disposition of these attacks we have no means of combating them."

Now I have been a sufferer from this malady since my earliest recollections. In my earlier life the paroxysms averaged about one a month, but, for the past twenty years, about once a week. Their duration has varied from a few minutes to twenty-four hours, the heart-beat rising from 72 to from 140 to 200 a minute, attended by a diminished blood pressure, and such a feeling of languor and exhaustion as to render mental or physical activity extremely difficult. I have sought relief from every available source. The long list of heart remedies has been tried in vain. The most reliable authors have been read and the most eminent of our profession consulted, but no relief found.

The advice most generally given, and that which was most in accord with the natural feelings during such attacks, was to seek rest—rest of body and mind—as complete as possible, not only to favor a cessation of the paroxysm, but to avoid the danger of cardiac paralysis, which might result from exercise. This advice I had followed, so far as practicable, all my life (and I am now 64 years of age), until I found, by accident, that it was a mistake. On July 14, 1908, during one of these paroxysms, while going in some haste to make a professional call, I discovered that, unless I ran, I would fail to catch a street car. Notwithstanding the feeling of weakness, and also of danger, I made the run of about one city block and jumped on the car. To my great surprise and delight I felt the sudden pang (which is sometimes experienced) indicating the end of the paroxysm. Now, as the attack had been continuing for two or three hours previously, I was not sure but that it might have stopped had I not taken this active exercise, but the inference was so strong as to cause the determination to try the effect of running in the next attack that might occur. In due time the paroxysm returned and I immediately started out on the street in a very rapid walk—almost a run—and when I made the circuit of one block the heart beat dropped down to the normal. I repeated this "treatment" in recurring attacks, and always with uniform success, although, on some occasions, I was compelled to make the second circuit around the block. But I learned an improvement on this mode of exercise. Instead of walking or running on the street, which was sometimes an awkward performance, I remained in my office or study and obtained the exercise by springing upward from the floor, like a girl skipping the rope. This I found more effective than running. On the occurrence of a paroxysm by actively performing this exercise the average time of its continuance is one minute. Usually, after from 60 *to 100 of these upward springs from the floor, there is* a cessation of the paroxysm. In a few instances the exercise has been required to be repeated, at intervals, for five minutes. It is simply the producing of a sufficient volume of blood in the heart to overcome the nerve-tangle which is the cause of the trouble. Now, as I have followed this practice, with invariable success, for almost an entire year, and covering about fifty attacks, I feel safe in giving it to the profession as a remedy.

Therapeutics

TUBERCULIN REACTIONS IN DIAGNOSIS OF TUBERCULOSIS

Although the continued discussion of this subject is almost wearisome, as the treatment and prevention of this disease is brought constantly before the general public and the profession, still it is, now, not only a matter of importance, but a matter of necessity, that the disease should be early diagnosed. Any method that will make the diagnosis possible in its incipiency will be the cause not only of the occasional successful treatment of this disease, but of its generally successful treatment. In other words, an early diagnosis, followed by the proper treatment, generally means that the disease will be stayed.

As a positive reaction to scientific tests for tuberculosis occurs in such a large number of patients who are considered healthy, and as signs of tuberculosis are found so frequently in autopsies on patients who have died of some other disease, a patient who is not well and does not present definite signs of other lesions should always be suspected of having tuberculosis.

The oldest and surest test for tuberculosis is made by tuberculin subcutaneous injections. This is the most certain test, and will almost always give a reaction in tuberculous patients, and may give it in a few other conditions. The disadvantage of this test and consequent reaction is that it should not be used when the symptoms are acute, and that it always increases the irritation and inflammation of the parts where the disease is located. In other words, a latent or quiescent tuberculous focus may be made active by an injudicious tuberculin injection or by a dose of tuberculin that is too large. It may be necessary, however, in suspected and hidden tuberculosis and when there is no definite localization to seek a definite indication of where the trouble is located. Any treatment that would cause such a local reaction would seem contraindicated when there is acute fever, pulmonary hemorrhage, severe pain, and other local signs of *an active tuberculous process.*

The advantage of giving tuberculin subcutaneously in minute doses as a treatment of the disease will not now be discussed.

If it is advisable, for diagnostic purposes, to use the tuberculin injection, Koch's old tuberculin is used, and the initial dose should not be more than 0.0005 c.c. in physiologic saline solution. If no reaction occurs after two or three days, the injection may be repeated and the dose increased, and if the reaction is negative *it* may be even run up as high as 0.005 c.c. The part where the injection is to be made should be thoroughly cleansed with soap and water and then with alcohol or ether. Injection is often made in the interscapular region, but perhaps as well in the lower axillary region or in the upper abdominal region. The injection should be given at night. If there is reaction the patient will show the next morning, or during that day, generally from 1.5 to 3 degrees of temperature, with some headache, backache, and general feeling of disability, and the region of injection will show swelling and redness. The region where the tuberculosis is located will also show signs of increased inflammation. The patient should be kept at rest for from one to three days after such an injection.

The next most positive test for tuberculosis is that known as the Calmette test, and Koch's old tuberculin seems to be the best tuberculin for this purpose. This test is made by putting a drop of a 0.5 per cent. solution of the old tuberculin into the conjunctival sac of the lower lid of a normal, healthy eye. If tuberculosis is present, there should be signs of conjunctivitis in from six to twenty-four hours. The percentage of successful reactions in tuberculous patients is so large that a negative reaction is almost presumptive that tuberculosis is not present. A positive reaction can probably occur occasionally in non-tuberculous patients. Rarely a severe inflammation of an eye has been caused by this instillation, but it is probably because the eye became otherwise infected.

In May, 1907 (*Berl. klin. Wchnschr.*), C. F. von Pirquet described his skin test for tuberculosis. Koch's old tuberculin seems also to be the best for this test. Any part of the body may be used, but the arm and often the forearm is perhaps the most frequently selected. The part to be vaccinated is cleaned as for the subcutaneous test, then a drop of the undiluted old tuberculin is placed on the part selected, and four or five inches down the arm is placed another drop. Midway between the two drops a small spot is scarified with an instrument that has never been contaminated with tuberculin. The scarification should be just through the epidermis to the point of causing an oozing of serum. Now the skin under the tuberculin drop should be gently scarified until the tuberculin is really scarified into the skin. The aim of the scarification should be not to draw blood. The parts are then left to dry in the air. They may then be left uncovered, or a linen handkerchief may be gently fastened over the part to prevent chafing.

A typical reaction is shown by a raised papule surrounded by an inflammatory area which appears in from twenty-four to forty-eight hours. This papule is surrounded by a reddened areola of from one-eighth to one-fourth of an inch. The control scarification should not show such a reaction. The susceptibility to this skin reaction seems to be decreased in tuberculous patients from childhood to the adult age, although the reaction is generally positive in all tuberculous patients. It may be positive in patients who are suffering from some other disease. A negative reaction to this skin test is of great value in excluding tuberculosis. If the reaction is positive, the ocular, or Calmette, test should be tried. If both the skin and the conjunctival tests are positive in patients, tuberculosis can be declared almost positively to be present. A recent article by von Pirquet on the cutaneous tuberculin reaction will be found in the *Journal of Pharmacology and Experimental Therapeutics*, June, 1909.

Early in 1908, Moro described a tuberculin skin test without scarifying. This test consists of rubbing into a small area of the skin a little (about 0.3 gm. or 5 grains) of an ointment composed of six parts of the old tuberculin in five parts of lanolin. The test is also as well made by gently rubbing into the skin a drop of the old tuberculin undiluted. It is well to protect the finger while rubbing with a rubber cot. A portion of the skin of the abdomen is generally selected, and is cleansed in the usual manner. The part treated is covered with gauze to prevent friction from the clothing, and a positive reaction should appear within from twelve to twenty-four hours, and consists of a general redness and the appearance of a number of small papules. This test seems to be almost if not quite as satisfactory as the von Pirquet vaccination test.

The advantage of these skin tests, i. e., the von Pirquet and the Moro, is that general systemic reaction is not caused by them, fever does not seem to be increased, and nausea, vomiting, and muscle pains do not occur. These cutaneous tests seem more diagnostic in young children than when used in adults. Both a latent and an active tuberculosis seem to react similarly to the cutaneous test.

The cause of the reaction to tuberculin applications and injections seems to be a hypersensitizing of the patient by the tubercular infection to which the name of "anaphylaxis" has been given. This ability to react is prognostically of good omen, and a tuberculous patient who can not react has lost his ability to fight the disease.

Tuberculin reactions may occur in acute infections such as typhoid fever, diphtheria, scarlet fever, rheumatism, and septic processes, and may occur in some chronic conditions as diabetes and syphilis. On the other hand, some eruptive diseases of childhood, as measles, have seemed to inhibit the reaction from the tuberculin cutaneous tests.

All the tests may show a latent or quiescent tuberculosis or a condition that needs no active treatment. Negative reactions seem to point to the entire absence of tuberculous lesions or infection. Positive reactions, especially if confirmed by more than one test (for instance, the skin and ocular tests), combined with suspicious localizations, seem to point positively to tuberculous processes, and if the symptoms are acute the disease is active, and if the lungs are affected, even if the sputum is absolutely negative, and even if the cough is not present, proper rest and fresh-air treatment should be instituted. The conjunctival test seems to be the one that is the least likely to show a latent or quiescent tuberculosis, but ordinarily the skin test should be first selected.

To sum up, the first test should be either the Moro or the von Pirquet. If these are negative, the patient may be considered to have no tuberculosis. If the skin test is positive he may have an active or a latent tuberculosis. The conjunctival test should then be tried. If this is negative his tuberculosis is doubtless latent and the reaction has probably occurred from some healed lesion. If it is positive, the patient may be considered to have an active tuberculous process, and should be treated accordingly.

The greater the intensity of the reaction and the sooner it makes its appearance probably shows the more acute nature of the tuberculous process, and also indicates that the fighting powers of the individual are actively at work.

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[*For other information see second page following reading matter*]

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THE HYPOPHYSIS CEREBRI

Our knowledge of the physiology of the hypophysis and of the symptomology of its diseases is largely a matter of recent years. It is satisfactory to know that so large a portion of it is due to work that has been, and is being, done in this country, as is shown by the Oration on Surgery by Dr. Cushing in this issue. As he says, our first insight into a possible functional activity of the gland is due to the modern comparative anatomists and embryologists and it seems a little surprising now, in the light of recent discoveries and considering the large number of castrated animals that must have been used in their investigations, that some suggestions of the function were so late in occurring to the observers. However this may be, within the last decade or two the progress has been eminently satisfactory, considering the difficulties in the way. The successful surgery of the hypophysis is one of the marvels of modern medicine, imperfect as the results have been as yet, and while, as Cushing admits, we are still very far from a satisfactory organotherapy of the hypophysis, the prospect seems hopeful that we may in the near future find something in this line also that may be of medical value. We can not reasonably prophesy any such brilliant results as have been obtained with the thyroid, but one or two observers have reported success with hypophyseal extract in the treatment of disorders of its normal function or those of closely related glands, like the ovaries, probably secondary to disease of the hypophysis. The surgery of the pituitary gland will necessarily be always attended with considerable risk and be justifiable only as a life-saving operation and for the preservation of the most important functions.

Notwithstanding the fact that Cushing finds that the entire removal of the gland is always fatal in dogs, it does not appear to be necessarily so in man, as Hochenegg's case proves. The real difficulty is in the inaccessibility of the gland, the danger of infection if the transsphenoid route is used, and the extreme handling of the brain which the intracranial approach requires; and these conditions exist, no matter how much or how little of the gland is to be removed. It may be that in the near future the technic will be so improved that these difficulties will be largely overcome, a much to be hoped for result.

Cushing's suggestion, that symptoms of hypophyseal origin probably occur in association with many other diseases in which they are overlooked, seems exceedingly probable in view of the fact that he himself reports finding frequent histologic alterations in glands taken at random from autopsy material. If our attention were more definitely centered, he says, on the activities of this gland, the symptoms attending such alterations would be more frequently observed. The known functional interrelations of the ductless glands would lead us to infer a possible and indeed a probable relation in the pathologic conditions. The disorder of one gland may well affect the function of another, and from this the hypophysis—unless we consider it a higher organ affecting others and not being affected itself—would not escape. There is a wide field for observation here which has not, to say the least, been so far over-cultivated. It is possible, though Cushing does not specially suggest it, that a number of abnormal conditions of delayed or morbid adolescence may have their origin in some perversion or alteration of the function of the anterior lobe of the hypophysis.

Since this organ is present in all vertebrates except the very lowest fishes or chordates, comparative anatomy, which, as said before, gave us the first insight into the possible function of this organ, may yet, when a more comprehensive knowledge is obtained, throw still new light on the subject. Even paleontology may yield some suggestive facts to supplement the data afforded by comparative anatomy and physiology. It is, however, from the experimental methods combined with clinical observations and experience that our main acquisitions on this important subject, so well discussed by Cushing, will have to be obtained.

TRICHINA EMBRYOS IN THE CIRCULATING BLOOD

A controversy has long existed as to the manner in which trichina embryos are distributed after leaving the intestine, some writers contending that they migrate chiefly through the lymph spaces; others that they are distributed by the blood stream. In an experimental study in 1894, Graham observed the embryos in the arteries of rats and in hemorrhagic lesions in the lungs, and Stäubli,[1] in 1905, by a special method succeeded in finding them in the heart's blood of infected guinea-pigs and more recently in the blood from the ear of these animals. His method consisted in laking the blood with 3 per cent. acetic acid, centrifugating and examining the sediment. At that time he predicted the use of this method for finding trichina in the blood in human cases for diagnostic purposes, but reported no cases.

Recently Herrick and Janeway,[2] using Stäubli's method, have fulfilled his prediction, finding the parasites in the human blood in a case of trichiniasis. The blood may best be obtained from a vein at the elbow by means of a small syringe. Three cases were examined, and in one they were found after a brief search. The fact that they occur in the circulating blood proves conclusively that this is one way in which they are distributed, though it does not prove that they are not also distributed through lymphatics. Indeed, it is certain they do migrate along the connective tissue spaces, since they are commonly found here and at some distance from blood vessels. It is, therefore, probable that they are distributed by both methods, passing through the various tissues, spaces and vessel walls indifferently.

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[1] Verhandl. d. Kong. f. klin. Med., Wiesbaden, 1905, p. 354.

[2] Arch. Int. Med., April, 1909, iii, 263.

A more extensive study of the blood in these cases is necessary to determine in how large a percentage of cases positive results may be obtained, and on this the value of the method for diagnosis will depend. Should it prove satisfactory, it will be an improvement on the common method of excising a piece of muscle for microscopic examination—an ordeal not permitted in all cases.

THE HARMFUL EFFECTS OF ACETANILID, ANTIPYRIN AND PHENACETIN

One of the most interesting and, for physicians, most instructive bulletins published by the Bureau of Chemistry at Washington has recently been issued on "The Harmful Effects of Acetanilid, Antipyrin and Phenacetin," by Dr. L. F. Kebler, with the collaboration of Drs. F. P. Morgan and Philip Rupp. For some time THE JOURNAL and a few other medical journals have been warning physicians of the dangers of the indiscriminate use of these valuable drugs; likewise a few of the better lay journals, among which *Collier's* and the *Ladies' Home Journal* take first rank, have carried the same warning to the public. The authors of this bulletin say regarding the *raison d'être* of the investigation made by the government on this subject: "The purpose of the inquiry was not to depreciate in any way the value of these substances as medicinal agents, but rather to furnish information to the public which would enable them to understand that these remedies should be employed with caution in the absence of reliable medical advice. . . ." And further: "The harm done by acetanilid does not result from its proper use under the direction of the physician, but is mainly the result of the promiscuous and indiscriminate use of the product by the laity."

With regard to the habit-producing qualities of acetanilid, antipyrin and acetphenetidin (phenacetin), the bulletin states that "the habit is acquired in most instances through the use of the remedy without the supervision of the physician for the relief of the minor aches and pains, especially headache." This fact was further emphasized by the statistics collected which showed that "proprietary preparations were used in at least 50, or 44.6 per cent., of the 112 instances of the habitual use of acetanilid." As to the toxic qualities of acetanilid the following is instructive: Of the total number of cases of poisoning recorded, "more than one-third were reported during the year and a half following the advent of acetanilid as a medicinal agent in August, 1886. . . ." These cases were, doubtless, nearly all due to physicians' lack of knowledge regarding the toxic properties of what was then a new drug. As physicians learned of the danger "the number of cases of poisoning fell off rapidly, and during the thirteen years following 1891 the number averaged but six annually."

Then came the innings of the nostrum exploiter and "headache cures," "brain foods" and fake synthetic analgesics flooded the market and were indiscriminately used by the public. The result was a large number of cases of poisoning reported during this later period—since 1904. The "notable increase," both in the number of cases and in the number of deaths, is accounted for by the government investigators as follows: "This can be adequately explained by the fact that during recent years the control of acetanilid as a remedial agent has rapidly passed from the hands of the medical profession to those of the laity, *owing largely to the advertising efforts of the manufacturers of proprietary medicines.*"[2] The use of nostrums containing acetanilid has increased enormously during the past few years. We read, in fact, that, while proprietary preparations containing acetanilid are not mentioned in the reports from 1897 to 1904, inclusive, yet in 1905 proprietaries were responsible for 55.5 per cent. of the cases of poisoning reported, in 1906 for 63.1 per cent., and in 1907 for no fewer than 87.5 per cent. THE JOURNAL has been accused of being too severe on the "headache powders" and similar preparations; this, too, not only by the proprietary interests, but occasionally by its friends. Certain it is that THE JOURNAL has never made such a scathing arraignment as that of this government document.

When Samuel Hopkins Adams published, in *Collier's Weekly*, an appalling acetanilid death record, an attempt was made to discredit this report by an "editorial" in the *St. Louis Medical and Surgical Journal* for December, 1905, entitled "Collier's Methods Exposed"; fortunately for the name of medical journalism, this journal went out of existence very shortly thereafter. Reprints of the "editorial" (undated, however) have been industriously circulated since, presumably by those interested in the sale of coal-tar remedies. We may confidently expect, since the government has now issued a bulletin on the same subject, that some other renegade medical journal will come to the rescue with an editorial on "Government Methods Exposed." In this it will be demonstrated, no doubt, not only that the bulletin itself is a tissue of falsehoods, but also that acetanilid-, antipyrin- and acetphenetidin-containing nostrums "do not depress the heart," are a good "brain food" and are, in fact, the most harmless and innocuous "patent medicines" on the market. Meanwhile, we advise every physician to write to Washington for Bulletin 126 of the Bureau of Chemistry, entitled "The Harmful Effects of Acetanilid, Antipyrin and Phenacetin."

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[2] Italics ours.—Ed.

BUTTERMILK THERAPY

Metchnikoff, Massol and several other authors have recommended fermented sour milk as prepared in Bulgaria, or a similar product, prepared according to Metchnikoff's method from pure cultures of bacteria, as a panacea for many ills. Appendicitis, tropical dysentery, typhoid fever and other diseases are said to be cured or at least benefited by the treatment with sour milk or buttermilk. Intestinal putrefaction, intestinal autointoxication and some nervous and digestive derangements said to be brought about by these conditions are supposed to be favorably influenced by sour-milk therapy, and consequently, according to Metchnikoff, the habitual use of sour milk prepared with the Bulgarian bacillus is conducive to long life. As support to this last suggestion it is stated that in Bulgaria there are relatively more centenarians than in other countries of Europe. Other factors, however, such as race predisposition, outdoor life and absence of effeminating luxuries, which might contribute to a similar result, have not been given due consideration.

The influence of sour milk on intestinal putrefaction and intestinal bacteria has been investigated by many observers. Thus Combe, Cohendy, Löbel and other French, German and English authors have published the results of experiments and clinical studies, from which they conclude that the extensive consumption of sour milk is decidedly beneficial. The success of the treatment is universally ascribed to the lactic acid in the milk or the lactic acid assumed to be produced by the bacteria in the digestive tract. The evidence, however, is by no means convincing. The work of many is characterized by lack of proper control and by neglect of the possibility that other factors might have influenced the results, and it is not altogether safe to accept the sanguine conclusions published. It has been recognized before the present era of sour-milk therapy that a liberal amount of sweet milk and carbohydrates, and a reduction of meat in the diet were beneficial in reducing intestinal putrefaction. It has never been shown conclusively that lactic acid bacteria produce lactic acid in the digestive tract in sufficiently large quantity actually to inhibit putrefaction. The experiments of some observers, who have made deductions from the results of a sour-milk diet to the exclusion of all other food, are of little value, since it is not likely that any one would live on such a diet except for experimental purposes. Some experimenters who have taken sour milk prepared with the Bulgarian bacillus have found this organism in the feces after five to six days. Hall and Smith found it under similar conditions after one day, and Heinemann and Hefferan have found it regularly in human feces (and in market milk) without artificial introduction. Most observers seem not to have examined normal feces before the ingestion of sour milk.

Some rather absurd statements are found in the literature on the subject. For instance it is stated that milk should not be heated before using lactic ferments, since heating destroys the natural lactic acid bacteria present, and that consequently their restraining influence on injurious bacteria is lost. The inhibition exerted by the few lactic acid bacteria in fresh milk is negligible as compared with the antagonistic influence of the enormous numbers of lactic acid bacteria in artificial cultures which are used for inoculation of the heated milk. The bold assertion that the intestinal flora can be changed at will by introducing lactic acid bacteria seems to be without sufficient evidence. The reduction of putrefactive products when sour milk is taken is ascribed solely to the activity of lactic acid bacteria or the lactic acid produced by them. It has not been considered that sweet milk and carbohydrates with a simultaneous reduction of meat in the diet might possibly have a similar effect. In regard to buttermilk, it does not seem to have been taken into account that the precipitation and fine distribution of the casein, the reduction of the amount of fat and the partial conversion of the milk-sugar into acid may be factors largely responsible for beneficial results.

Recently pure cultures of lactic acid bacteria, especially of the *B. bulgaricus,* have been recommended for reducing and curing abscesses, catarrh and other troubles caused by pyogenic bacteria. The principle involved is the antagonism of lactic acid bacteria to pyogenic bacteria, the acid produced by the former inhibiting the latter. This theory is attractive, but the evidence in its favor is, as yet at least, meager and unscientific, because of the absence of control observations.

The benefits derived from the use of buttermilk, sour milk and cultures of lactic acid bacteria for digestive and suppurative troubles are doubtful, and too much confidence should not be placed in the application. More evidence and that, too, of varied nature is required before reliable conclusions can be drawn. If this form of treatment is resorted to, the physician should not place too much dependence on commercial preparations in tablet or powder form. When possible, it is better to obtain pure cultures from reliable laboratories where frequent transfers are made so that the purity and activity of the organisms are preserved.

BENZOATE OF SODA AND TOMATO CATSUP

The statement that chemical preservatives in general, and benzoate of soda in particular, are used by many manufacturers of foodstuffs to cover inferior material, has been frantically denied by the makers and users of such preservatives. A recent judgment of the United States court throws some light on this vexed problem. Over six hundred cases of tomato catsup prepared by S. J. Van Lil, of Baltimore, were seized by the government and subjected to examination. The cases were labeled in part "Navy Brand Catsup. Prepared with one-tenth of 1 per cent. Benzoate Sodium. . . . This catsup is superior on account of its Fine Zest and True Tomato

Flavor. Made from Choice Ripe Tomatoes. . . ." Examinations of the product, verified by a previous inspection of the factory where it was made, showed that the "Choice Ripe Tomatoes" consisted in fact of the "pulp screened from peelings and cores of tomatoes" and the "waste material of canning factories." This nasty mess had been embalmed with the benzoate of soda. The S. J. Van Lil Company entered its claim to the goods, but did not contest the allegations made by the government; the court, therefore, decreed that the catsup should be destroyed. We may now presumably look for a fresh batch of articles from the press agents of the preservative manufacturers, and such advocates of embalmed foods as the *American Food Journal* may be relied on to come promptly to the rescue of those interests which live and move and have their being in the "doping" of foods.

Medical News

ARKANSAS

Society Meeting.—At the annual meeting of Nevada County Medical Society, held in Prescott, Dr. Albert S. Buchanan was elected president and Dr. William W. Rice, secretary, both of Prescott.

Personal.—Dr. J. S. Shibley, Paris, president of the Arkansas Tuberculosis Association, has been selected as superintendent of the State Tuberculosis Sanatorium.——Dr. A. E. Tatum has been appointed chairman, Dr. Henry Pase secretary, and Dr. L. K. Charles a member of the board of health of Eureka Springs.

CALIFORNIA

Medical Society Reorganized.—Kings County Medical Society was reorganized at Hanford, June 12, with the following officers: President, Dr. M. J. H. Woolf; vice-president, Dr. J. Allen Crawshaw; secretary-treasurer, Dr. Robert W. Musgrave, and censors, Drs. Charles T. Rosson, Lucius E. Felton, and Charles L. Scott.

Salaries Raised.—The State Commission in Lunacy, at its meeting in Sacramento, June 10, decided to raise the salaries of the superintendents of the six state hospitals from $3,000 to $3,600 a year; to increase the salaries of first assistant physicians $300 a year; of second assistant physicians $200 a year, and third assistant physicians, $300 a year Salaries of the fourth assistant physicians will begin at $90 per month and increase with length of service.

IOWA

Sanitarium Burns.—Storm Lake Sanitarium, a private institution owned by Dr. David H. Nusbaum, was entirely destroyed by fire June 18, with a loss of about $16,000. The patients escaped without casualty.

Suggestive Healer Found Guilty.—Bruce Hedberg, a practitioner of "suggestive therapeutics and psychology" is said to have been found guilty at Des Moines, May 27, of practicing medicine without a license, and sentenced to pay a fine of $300. On his failure to pay the fine he is said to have been committed to the county jail June 18, where he will be imprisoned for fifty days.

KENTUCKY

Personal.—Dr. L. S. McMurtry, Dr. and Mrs. Joseph M. Mathews, and Dr. James M. Ray, Louisville, have gone to Europe.

New Faculty Appointments.—Announcement has just been made that the board of trustees of the University of Louisville has declared vacant all the chairs of the medical department and has made appointments as follows to fill the vacancies: J. M. Bodine, Thomas C. Evans, C. W. Kelley, William H. Wathen, J. B. Marvin, L. S. McMurtry, H. H. Grant, H. B. Ritter, I. N. Bloom, J. M. Ray, W. E. Grant, Louis Frank, Garland Sherrill, William A. Jenkins, T. L. Butler, S. G. Dabney, William Cheatham, W. O. Roberts, P. F. Barbour, A. O. Pfingst, George A. Hendon, Hugh N. Levell, Edward Speidel, E. R. Palmer, Bernard Asman, Charles W. Hibbitt, Irvin Abell, V. E. Simpson, Granville Hanes, B. F. Zimmerman, Carl Weidner, Henry Enos Tuley, John G. Cecil, William C. Dugan, Cyrus Field, and Harris Kelly.

MARYLAND

Hospital Addition.—St. Joseph's Hospital, Baltimore, will erect a two-story addition at an expense of $10,000, to be used as a dispensary.

Personal.—Dr. H. Barton Jacobs, Baltimore, has returned from Europe.——Dr. Thomas C. Gilchrist and James J. Mills, both of Baltimore, sail for Europe shortly.

Instruction of Militia Officers.—A camp of instruction for medical officers of the militia was begun at Antietam July 16. There are 82 officers in camp under the instruction of eleven members of the Medical Corps of the Army who give instruction in sanitation and conduct of camps and hospitals. The camp will close August 11.

Pure Food Law.—The Baltimore Drug Exchange, composed of wholesale druggists of Baltimore, has decided to make another strenuous fight for the passage of the pure food and drugs act by the legislature. *At the last session of the legislature*, all the food and drug manufacturers advocated the passage of the bill prepared by the drug exchange, but it failed to pass because of the disagreement of the house and senate whether the State Board of Health or the Maryland Agricultural College should have charge of the execution of the law.

MASSACHUSETTS

Honorary Degrees Conferred.—At the commencement exercises of Harvard University, June 29, the honorary degree of master of arts was conferred on Dr. Wilfred Thomason Grenfell of Labrador, and the honorary degree of doctor of medicine on former President Charles William Eliot of Harvard University.

Personal.—Dr. Charles H. Cook, Natick, has been appointed a member of the State Board of Registration in Medicine, vice Dr. Augustus C. Walker, Greenfield, who declined reappointment.——Drs. Walter D. Riordan, John J. Sullivan, Thomas F. Walsh, Bernard Mulholland, Thomas H. Redmond, and Emile E. Cyr have been elected ward physicians of Lawrence.

City Bacteriologic Laboratory Prepared.—The bacteriologic laboratory in connection with the Lawrence Health Department is practically completed and Dr. H. H. Nevers is ready to carry out the duties of his office. He announces that outfits for tuberculosis, Widal reaction, gonorrheal and other infections may be secured at certain stations in the city where antitoxin and vaccine may be obtained.

Assigned to Duty.—The following officers having passed the medical and examining boards of the Massachusetts Volunteer Militia, have been assigned to duty: Drs. Malcolm Seymour, D. M. Rust, G. C. Squire, A. A. Brigham, O. D. Dickerman, H. J. Kane, F. J. Young, R. D. Hood, F. H. Whittier, and H. N. Kelley.

Hospital News.—The dedication exercises of the new Charles Choate Memorial Hospital, Woburn, given by the daughter and granddaughter of the late Charles Choate to the town, were held June 29. The hospital will accommodate 15 patients.——By the will of the late Mary J. Heyward, Chelsea, a bequest of $1,500 is made to the Frost Hospital, Chelsea.

Boston Floating Hospital.—On June 30 the Boston Floating Hospital made its first trip for the season with 54 infant patients. Dr. J. Warren Ball is resident physician; Henry C. Marble, chief of the food laboratory; Miss Isabel T. Chapman, day superintendent of nurses; Miss Hildegarde O. Lawson, night superintendent of nurses, and Miss Acsha A. Dorsey, superintendent of day patients' deck, and a number of physicians as house officers. There are also a visiting, consulting, and auxiliary staffs.

MISSOURI

Hospital Officers Elected.—*At the annual meeting of the* stockholders of the Springfield Hospital, Drs. Dexter B. Farnsworth, Frank B. Fuson, R. L. Pipkin, and John R. Boyd were elected directors. The directors then elected the following officers: Dr. Norman F. Terry, president; Drs. Theodore A. Coffelt and Herbert S. Hill, vice-presidents; Dr. R. L. Pipkin, secretary, and Dr. Lee Cox, treasurer.

Changes in University Faculty.—The board of directors of the University of Missouri, Columbia, have appointed Dr. C. M. Jackson, junior dean, as dean to succeed Dr. Andrew W. McAlester, resigned. Drs. Max Meyer, William J. Calvert, George LeFever, and Woodson Moss have resigned from the faculty. The board also appointed a committee to take up the matter of locating the work of the junior and senior years in St. Louis.

Society Meeting.—The seventeenth annual meeting of the Northeast Missouri Medical Society was held in Moberly, June 18, and the following officers elected: Dr. Chalmers B. Clapp, Moberly, president; Drs. Godfrey O. Cuppaidge, Moberly, and C. R. Dudley, Hannibal, vice-presidents; Dr. E. C. Callison, Kirksville, corresponding secretary; Dr. Oliver C. McEuen, Salisbury, recording secretary, and Dr. Robert Haley, Brookfield, treasurer.

St. Louis

Work Against Tuberculosis.—The Centennial Committee of the St. Louis Society for the Relief and Prevention of Tuberculosis has placed on sale 1,000,000 stamps to aid in maintaining the visiting nurse work, the provision of special diet, and the attempt to provide a day and night camp for consumptives, with special provision for tuberculous children. Fifty thousand stamps were sold in the first five days.

NEBRASKA

Child-Saving Institute.—The new plans for the Child-Saving Institute, Omaha, provide for a fire-proof building three stories and basement in height, to cover 70x100 feet of ground.

County Medical Society News.—Cedar County Medical Association met in Laurel last month and decided to merge with the Medical Association of Dixon and Dakota counties, thus forming a tri-county association.

Personal.—Dr. Henry Baldwin Ward, dean of the College of Medicine and professor of zoology in the University of Nebraska for many years, has accepted the position of professor of zoology at the University of Illinois, Champaign, to succeed Prof. Stephen A. Forbes.

State Health Officers Organize.—At the call of Dr. D. T. Quigley, North Platte, a number of health officers of the state met June 7 and 8 in Omaha and formed the Nebraska State Health Officers' Association, and elected the following officers: President, Dr. D. T. Quigley, North Platte; vice-president, Dr. Ralph W. Connell, Omaha; secretary, Dr. G. H. Marvel, Aurora; and treasurer, Dr. J. H. Mackay, Norfolk. The *Western Medical Review* was chosen as the official organ of the association. The next meeting will be held in Lincoln August 10 and 11. The association adopted resolutions recommending the adoption of uniform health ordinances for cities of 5,000 population or over with a medical practitioner as health officer, and in cities of less than 5,000 population, uniform health ordinance, creating a board of health, one member of which shall be a regular licensed physician. Other resolutions deal with the care to be taken of sputum of tuberculosis patients and the prevention of that disease, the enforcement of the ordinance of the State Board of Health regarding infectious and contagious diseases and quarantine, enlightenment of the public regarding venereal diseases, the medical inspection of school children, school houses, prevention of rummage sales, the carriage of disease by pet animals and vermin, disposal of garbage, pollution of railroads by the right of way, the pollution of ice, the disposal of scrubbings and slops, the installation of fly-proof garbage cans, the care of stable manure, and the disinfection of earth closets.

NEW JERSEY

Hospital News.—The new $2,000,000 hospital for the insane at Overbrook was formally inspected June 11 by the County Board of Freeholders. The institution will accommodate 1,300 patients.——The new public hospital in West Millville was formally opened June 15.

Creameries and Dairies Inspected.—The total number of creameries inspected during June numbered 73. Of this number 3 were for the first time inspected and 70 reinspected. Fifteen letters were sent to creamery operators and 26 water samples were collected from creamery premises. The total number of dairies inspected was 11. Of these the number scoring above 60 per cent. amounted to 6, the number scoring below 60 per cent. was 5; the number of dairies first inspected was 6; the number of dairies reinspected was 5, the number to which letters were sent was 14, and the number of water samples collected from dairy premises was 14.

Vital Statistics for June.—During the month ended June 15, there were reported to the Bureau of Vital Statistics 2,937 deaths, a decrease of 18 from the previous month. The deaths under one year numbered 446; over one year and under five years, 268; and sixty years and over, 894. Chief among death causes were tuberculosis, 406; diseases of the circulatory system, 402; diseases of the nervous system, 359; pneumonia, 292; Bright's disease, 193; diseases of the digestive system, 169; diseases of the respiratory system, 165; cancer, 151; infantile diarrhea, 51; suicide, 40; diphtheria, 38; scarlet fever, 36; whooping cough, 29; measles, 23; typhoid fever, 16; cerebral spinal meningitis, 19; and malarial fever, 2.

NEW YORK

Lunacy Boards Get Options.—Options have been obtained on 550 acres of land in Westchester county, near Yorktown, for an asylum for the insane. The total amount of the consideration is $132,000.

A Farm for Convalescents.—The Holiday Farm of Staatsburg, Dutchess county, has received the approval of the State Board of Charities for its work as a convalescent home for children from New York City hospitals.

Memorial to Philanthropist.—In the presence of the employés of the Bausch and Lomb Optical Company, a bronze and marble testimonial in honor of the late Henry Lomb was unveiled in the factory of the company July 8. The memorial is a bronze tablet resting on a polished pedestal of marble. The tablet bears as its inscription the last public utterance of Captain Lomb, "Think of Others First, Yourselves Afterward."

To Protect West Point.—As the result of a recommendation by Major Charles M. Gandy, the residents of West Point have been cautioned against using ice cut outside West Point. This step was taken in order to guard against typhoid. During the past winter typhoid existed in some of the neighboring towns and as much of the drainage is imperfect it is feared that some of the ponds from which ice has been cut may have been infected.

Newburg to Have Hospital.—Ex-Gov. Benjamin B. Odell, Jr., has presented the tuberculosis committee of Newburg with a hospital and camp for the treatment of patients suffering from tuberculosis. He has given a four-acre plot of ground, the dwelling to be used as an administrative building, and will erect an infirmary costing $25,000, to which he will add as demands may require. It is expected that the hospital will be ready for occupancy by the middle of August.

Suicides on the Increase.—Statistics received by the State Department of Health show that self-inflicted deaths are on the increase. In 1907 there were 1,207 suicides in the state and last year there were 1,419, an average of 117 a month. The first five months of 1909 show an average of 124 a month, and on the present basis there will be 1,550 suicides for 1909. The number of those who destroy themselves is greater than the number dying from typhoid, diabetes or rheumatism. Although there has been an increase of suicides in the state there has been a decrease in New York City. The total in Manhattan for the first five months of this year is 201, while for the same months last year there were 231. The statistics show that the most frequent method used is poison, and gas is the second most frequent.

New York City

Personal.—Dr. Ramon Guiteras has returned from a hunting expedition in Africa.——Dr. Ernest V. Hubbard has been appointed police surgeon.——Dr. and Mrs. Ludwig Kast have sailed for Europe.——Dr. and Mrs. Walter E. Lambert and Dr. Henry H. Tyson have sailed for Europe.

Medical School Enlarged.—Dr. Herman M. Biggs, of the health department, has transferred to the New York University, three buildings on First avenue and Twenty-fifth street, adjoining the New York University Medical School. The buildings will be torn down and an addition to the school erected.

Fight for Health Inspectors.—The Civil Service Protective Association will support the Medical Protective Association in its fight for restoration to office of 105 health inspectors in Brooklyn. It is reported that the case will be carried to the Court of Appeals. An epidemic of measles is thought to have been improperly handled as a result of the discharge of these men.

"Typhoid Mary" Denied Her Freedom.—The Supreme Court has decided that "Typhoid Mary," as she is called, must return to North Brother's Island, where she has been detained for the past two years, because she had been shown to be a typhoid carrier. The court expressed the opinion that she should have every opportunity to establish, if she can, that she is fully cured. After further examination she may renew her application for freedom.

Fewer Accidents.—Accidents on traction lines in this city for the month of June show a marked falling off from the figures of the same month of the year 1908. The number of deaths this year was 29, as compared with 42 last year. The total number of accidents fell off 856. These favorable results are attributed to the work of the Public Service Commission, which has insisted on the lines being properly equipped with air-brakes, fenders and wheel guards.

City Makes a New Low Record.—The week ending July 10 showed the lowest death rate ever recorded for a summer month. This rate was 14.37 per thousand population as compared with 17.88 for the corresponding week of last year. The health department attributes this reduced mortality to the cooler weather and to a better milk supply and better education in regard to the care of infants. Last week 303 infants under 1 year of age died, while 508 died during the corresponding week of last year. During the first six months of this year only 414 babies died from diarrheal disease compared with 773 for the same period of 1908. Prior to July 1, nurses had visited 15,000 babies. About sixty private agencies are cooperating with the health department in the endeavor to reduce infant mortality.

NORTH CAROLINA

Hospital Opened.—The new Harrill Hospital, recently built at Caroleen, was formally opened for patients July 6.

Personal.—Drs. Edward Jenner Wood and Robert Harlee Bellamy, Wilmington, have been appointed a special committee by the State Board of Health to study and report on pellagra in North Carolina.——The following physicians have been designated to represent the Medical Society of North Carolina in the coming decennial revision of the U. S. P.: William L. Dunn, Asheville; William D. MacNider, Chapel Hill; and Edward Jenner Wood, Wilmington.——Dr. Richard H. Lewis, Raleigh, has gone to Alaska.——Dr. James W. Peacock has been elected health officer of Thomasville.——Dr. Benjamin K. Hays, Oxford, secretary of the State Board of Medical Examiners, is spending the summer at Buffalo Lithia Springs, Va.——Dr. Joseph Graham, Durham, has retired from general practice and will devote himself to the practice of surgery.

PENNSYLVANIA

April Deaths and Births.—The total number of deaths, exclusive of stillbirths, during the month from all causes was 9,960, distributed as follows: pneumonia, 1,456; tuberculosis, 986; Bright's disease and nephritis, 502; diseases of early infancy, 471; violence, 390; cancer, 372; influenza, 230; accidents, 211; diarrhea and enteritis of children under 2 years of age, 191; measles, 170; diphtheria, 130; scarlet fever, 121; typhoid fever, 114; suicide, 111; whooping-cough, 107; diabetes, 82; diarrhea and enteritis, of children over 2 years of age, 81; meningitis, 76; and all other diseases, 4,159. The total number of births recorded in the state during the month, exclusive of stillbirths, was 15,511, the total number of stillbirths being 819.

Philadelphia

Smallpox Case Reported.—A case of smallpox was discovered in the northwest section of the city July 12, and the immediate neighborhood was roped off, temporarily quarantined, and the residents to the number of 1,000 were vaccinated by the city's medical inspectors. The patient was removed to the new *Municipal Hospital.*

New Dispensary for German Hospital.—A contract has been awarded for the erection of a basement and a one-story dispensary building for the German Hospital. The dimensions of the new structure are 50x130 feet, and it will be erected at a *cost of $47,000*, and will be so arranged that additional stories may be added in the future.

Personal.—The following physicians have gone to Europe: David B. Kyle, William Zentmayer, Donnel Hughes, Albert P. Francine, Milton B. Hartzell, John H. Musser, George E. Pfahler, Warfield T. Longcope, J. H. Gaskill, James M. Anders, William G. Winder, Herman Heller, Ross H. Skillern, John Bacon, Charles W. Bonney, and Henry D. Jump.——Dr. Aristides Agramonte, president of the Commission on Infectious Diseases of the Republic of Cuba, visited this city July 13, with the purpose of studying the methods as practiced by the local health department.

SOUTH DAKOTA

State Home for Consumptives.—The members of the State Board of Charities and Corrections have decided to establish a state sanatorium for tuberculosis in Custer county in the Black Hills, the site to be selected.

Election of Officers.—At the annual *meeting of the Davison* County Medical Society, held in Mitchell recently, Dr. John A. Howard, Ethan, was elected president, and Dr. Elwin F. Reamer, Mitchell, secretary-treasurer.

Hospital News.—A stock company has been organized at Hetland by the farmers. The *entire sum* necessary for the erection of a hospital at Hetland has been subscribed and the building will be put up at once.——The directors of the Fort Pierre Hospital have leased that *institution* to Drs. Charles J. Lavery and Mark Walsh for five years from July 1, for $7,500. Dr. William Schroeder and his wife will conduct the hospital until permanent arrangements are made.

TENNESSEE

Found Not Guilty.—Dr. J. Herman Feist, Nashville, charged with the murder of Mrs. Rosa Mangrum more than two years ago, was found not guilty at the trial, June 9.

Personal.—Dr. John A. Witherspoon, Nashville, has gone to Europe.——Dr. G. Frank Russell will, after an absence of about a year in Memphis, Tenn., and Baltimore, Md., return to his old home in Louisville, Ky., about August 1.——Dr. S. Walter Woodyard has been elected alderman of Greeneville.——Dr. William F. King has been appointed a member of the Jefferson City Board of Health.——Dr. Samuel B. Boyd will fill the position for the present of physician at the Tennessee Deaf and Dumb School, Knoxville, formerly held by the late Dr. John M. Boyd.——Dr. William M. McCabe has been elected superintendent and surgeon of the Nashville City Hospital.

Reorganization of Medical School.—The medical and dental departments of the University of Tennessee at Nashville will *hereafter be conducted from* Knoxville, but under the immediate direction of the University of Tennessee, Dr. Brown, Ayres, *and the trustees of the institution.* The equipment of the department was owned by the members of the faculty, but has been donated to the state institution. Dr. Robert O. Tucker, Nashville, has been appointed dean of the institution, and Dr. Daniel B. Blake, Nashville, a member of the faculty. The transfer of the Tennessee Medical College to the Lincoln Memorial Hospital to the trustees of Lincoln Memorial University has been made. The faculty of the Tennessee Medical College will be retained but will be greatly increased. The suit in chancery brought by Dr. Claudius M. Capps, Knoxville, against the Tennessee Medical College and others has been dismissed.

TEXAS

Personal.—Dr. Charles E. Cantrell, Greenville, trustee and chairman of the judicial council of the American Medical Association, was thrown from his buggy while making a call July 14, sustaining a fracture of the left leg.

VIRGINIA

Graduation Exercises.—A class of eighteen was graduated from the Medical School of the University of Virginia, Charlottesville, June 5.

Dispensary Incorporated.—The Roanoke Free Medical Dispensary has been incorporated at Roanoke without capital, to operate a free medical dispensary for the benefit of the poor.

Faculty Changes.—At the annual meeting of the University College of Medicine, Richmond, Dr. Alfred L. Gray was chosen dean of the department of medicine, vice Dr. Paulus A. Irving, who declined re-election. Dr. Paul W. Howle was elected lecturer on materia medica and therapeutics; Dr. E. Guy Hopkins, lecturer on clinical diagnosis; Dr. Robert T. Ferguson, instructor in obstetrics; Dr. F. G. Simmons, instructor in pediatrics; Dr. Charles M. Edwards, instructor in clinical diagnosis; Dr. Charles H. Lewis, assistant in the chair of clinical medicine; Dr. Paul W. Howle, bedside instructor in surgery; Dr. William B. Hopkins, clinical assistant to the chair of diseases of the nose and throat, and Dr. W. W. Gill, clinical assistant to the chair of diseases of the eye.

Personal.—Dr. Albert A. Cannaday and wife, Roanoke, and Drs. Herbert Old and Lomax Gwathmey, Norfolk, have gone to Europe.——Dr. Lewis C. Bosher has been appointed chief of the visiting staff of Memorial Hospital, Richmond.——Dr. Clarence W. Cowper has been elected alderman of the third ward, Norfolk, to fill a vacancy.——Dr. Charles M. Byrnes, for three years adjunct professor of anatomy and assistant in neurology in the University of Virginia, Charlottesville, has resigned to accept the position of instructor in neurology in the Medical Department of Johns Hopkins University.——Drs. John G. Trevilian and William S. Gordon have resigned as members of the medical staff at the City Home, Richmond, and Drs. John Garnett Nelson and Isaac T. Gorsline have been elected to fill the vacancy.

GENERAL NEWS AND COMMENT

Individual Cups.—The Boston and Maine System has adopted the use of individual paper drinking cups in its cars.

American Pharmaceutical Association Meeting.—The American Pharmaceutical Association will hold its annual meeting in Los Angeles, Cal., August 16-20. It is announced that there will be reduced railroad rates, the rate for the round trip from Chicago being $72.50, via the direct route, and $77.25 for return via Seattle.

Negro Baptist Hospital.—The negro Baptists of West Tennessee, North Mississippi and East Arkansas have completed at Memphis a hospital with a capacity of 50 beds. The faculty of the University of West Tennessee Medical College will have entire control of the clinical wards. The building has cost about $20,000.

Society News.—The Medical Society of Northern Virginia and District of Columbia met in Warrenton, Va., June 24, and elected Dr. Stephen Harnesberger, Catlett, Va., president; Dr. Charles S. White, Washington, D. C., secretary-treasurer, and Dr. Tunice C. Quick, Falls Church, Va., councilor.——The annual meeting of the Baltimore and Ohio Association of Railway Surgeons was held in Cincinnati, July 2. St. Louis was selected as the place of meeting for 1910. The following officers were elected: President, Dr. James O. Howells, Bridgeport; vice-presidents, Drs. Summerfield B. Bond, Baltimore, and Newton R. Eastman, Mount Vernon; secretary-treasurer, C. E. Johnson, Baltimore, and executive committee, Drs. John Palmer, Wilmington, Del., and Frank C. S. Blessing, Pittsburg.

New British Periodical on the Heart.—The first number of *Heart*, a medical magazine to be devoted entirely to the study of the heart and circulation, has just appeared. The editor is Thomas Lewis and on the editorial staff are many well-known men from this country and abroad, therefore bespeaking for this publication a high standard of excellence. It is intended that this journal will focus together the work of the laboratory and of the hospital ward, presenting the physiologic and clinical aspects of all problems concerned with the circulatory apparatus. In the present number there appear articles by Cushny, MacKenzie, Lewis and Hill. The mechanical work is excellent, although, owing to the size of the page, a little more space between the lines would be of great help to the reader. Apparently only original contributions will be published. Even no editorials appear in this issue. *Heart* is published in London by Shaw and Sons, Fetter Lane, Fleet street, E. C., at $5.00 a year. We are unable to find any indication on the copy in hand as to whether the intention is to publish it weekly, monthly, quarterly or otherwise.

FOREIGN

New Insane Asylum in Italy.—The corner-stone of a new insane asylum was recently laid three miles outside of Rome. It is to have a capacity of 1,000 beds, and be built with a number of separate buildings and farm colony.

Schaudinn Medal Awarded to Prowazek.—The prize founded as a memorial to Fritz Schaudinn, the Schaudinn medal for achievements in microbiology, was awarded on the anniversary of his death, June 22, to his successor, S. von Prowazek, at the Hamburg Institute for Marine and Tropical Diseases. The committee in charge of the awarding of the prize consists of twenty-four scientists in various countries, including Blanchard, Ehrlich, Golgi, Kitasato, Koch, Laveran, Manson, Novy, Nuttall, Ross, Wilson, Metchnikoff and Wladimiroff.

Terres Appointed Director of Mexican Medical Institute.—The President of Mexico has recently appointed Prof. Jose Terres director of the Instituto Medico Nacional, one of the leading medical institutions in Mexico. Terres has been professor of pathology and clinical medicine since 1897 until he resigned last year. He founded the *Sociedad de Medicina Interna* and was instrumental in the organization of the *Sociedad Sanitaria y Moral de Profylaxis*. One department of the medical institute has long been engaged in compiling a list of indigenous herbs and studying their therapeutic possibilities.

British Medical Association Meeting.—The British Medical Association is at present holding its seventy-seventh annual meeting in Belfast. The annual meeting of the representatives was to begin Friday, July 23. The scientific program, which will be conducted in fifteen sections, begins with the president's address on Tuesday, July 27, and continues for the three days following. The address in medicine will be delivered by R. W. Philip, M.D., F.R.C.P., Edin., while A. E. J. Barker, F.R.C.S., will give the address in surgery. The address in obstetrics will be delivered by Sir John W. Byers, M.D., and Dr. J. A. Macdonald will give the annual popular lecture.

International Congress of the Medical Press.—The fourth congress is to be held, as previously announced, just before the International Medical Congress at Budapest. The first general meeting is open to all connected in any way with the medical press, but the second is for members of the International Medical Press Association only. Among the questions to be discussed are the control of advertising, the exclusion of paid write-ups, the struggle against free medical journals, the creation of a permanent international committee, the unification of medical terminology, the unification of table of contents in medical journals, obligation for summary to be supplied with a medical article, and organization of a central international agency to publish these summaries for the exclusive use of medical journals. Schwalbe and Posner of Berlin will introduce the subject of the publication of the same article in different journals and different countries.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 10, 1909.

Food Adulteration

The annual report of the medical officer of the local government board for the year 1907-1908, which has just been issued, contains several matters of interest. Dr. Buchanan, chief inspector of foods, has investigated the contamination by lead and arsenic of tartaric acid, citric acid, and cream of tartar. In several instances these impurities were found. Much of the tartaric acid had not been prepared with the care which its use as a food ingredient demands. A recommendation was made in 1907 that legal limits of impurity should be established. The limits recommended were for tartaric acid, citric acid, and cream of tartar, one-seventh of a grain of lead per pound and one-hundredth of a grain of arsenic, as arsenious oxid, per pound. These limits of impurity have been found of practical utility in the trades concerned. The adulteration of vinegar with sulphuric acid is found to be still carried on.

Bacteria in Sewer Air

Dr. Andrews publishes in the report some very important researches which show that under ordinary conditions characteristic sewage bacteria are demonstrable in sewer and drain air. Bacilli of the colon group, while absent from fresh air, could be found easily in drain air and corresponded exactly with the various bacilli of this group present in sewage.

The Preservation of Dead Bodies

Dr. Reichter's apparatus for the preservation of corpses has been installed in the mortuary of the city of London and has been found most satisfactory. The body of an unknown man found drowned was brought to the mortuary on March 10 and, after a necropsy had been made, was kept in the apparatus from March 16 to April 29. It remained in a perfect condition for identification. As a month is the limit of time necessary to preserve bodies for identification, this result is considered excellent. The apparatus consists of an air-tight case in which a saturated solution of formaldehyd is allowed to evaporate and the air meanwhile is kept in circulation by a small fan.

The Retirement of Sir Felix Semon

A complimentary banquet has been given to Sir Felix Semon, the eminent laryngologist, on his retirement from practice. Mr. H. T. Butlin, surgeon of St. Bartholomew's Hospital, presided, and the company included many names distinguished in medicine and other professions. The chairman in proposing Sir Felix Semon's health reviewed his life. He referred to the fact that in the seventies of the last century specialists were abhorred by the leaders of the medical profession. Then Semon came to London from Germany armed only with his German medical degree and not knowing a word of English. He spent much of his time at the Hospital for Diseases of the Throat in Golden Square and was appointed clinical assistant. In 1876 he obtained the qualification of M.R.C.P. and began to practice in London. He procured the recognition of laryngology as a subject at the International Medical Congress held in London in 1880 and in 1881 he was appointed physician for diseases of the throat at St. Thomas's Hospital. He took an active part in founding the Laryngological Society of London. Letters, telegrams and addresses to Sir Felix Semon were received from America, Germany, Hungary, Austria, Russia, Scandinavia, Denmark, Holland, France, Italy and Spain, all paying tribute to his great services to laryngology.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 8, 1909.

A New Sign of Hydatid Cysts of the Convex Surface of the Liver

Before the Academy of Medicine, July 6, Professor Chauffard described a new sign of ascending hydatid cyst of the convex surface of the liver which he established in two cases. In laying the left hand below the point of the right shoulder-blade while the right hand percusses lightly and on the same level the anterior thoracic wall, one feels a very distinct vibratory undulation. One of the two patients even perceived it himself. Pleuritic effusions did not give any vibratory sensation; neither did a large dysenteric abscess of the liver containing two liters of pus. In the hydatid cysts, on the other hand, the tension of the liquid and the smooth, supple and elastic condition of the cystic membrane were favorable to the production of vibratory waves. The new sign, which Chauffard calls the "transthoracic undulation," may then be valuable to facilitate the differential diagnosis of ascending hydatid cysts of the convex surface of the liver from large abscesses in the same locality and from effusions of the right pleura.

Congress of Social Hygiene

At the national Congress of Social Hygiene which was just held at Agen Dr. Calmette of Lille, speaking of hygiene in the country and of the struggle to be carried on against tuberculosis, recommended the creation of movable disinfection posts and of a kind of sanitary police among the rural populace.

Death of Dr. Henry Cazalis

Dr. Henry Cazalis, known in literature under the pseudonym of Jean Lahor, has just died of uremia at Geneva, aged 69. He had published several volumes of verse, a history of Hindu literature, and several studies on marriage, considered from the medical point of view ("Science and Marriage," "Pathologic Risks of Marriage"); he advocated the idea of an examination of health before marriage. Quite recently, in collaboration with Dr. Lucien Graux, he published a treatise on cheap and rational alimentation.

Election at the Academy of Medicine

During its session of July 6 the Academy of Medicine elected two national associate members, Dr. Lacassagne, professor of legal medicine at the College of Medicine at Lyons, and Dr. Queirel, director of the School of Medicine at Marseilles and professor of clinical obstetrics.

A Prize of the Academy of Moral and Political Sciences

The Academy of Moral and Political Sciences has awarded the Stassart prize (3,000 francs, or $600) to Dr. Jacques Bertillon, head of the service of municipal statistics of Paris. The subject was "The Moral and Social Causes and Consequences of the Diminution of the French Birth Rate and the Recent Theories and Propagandas Which May Increase Its Dangers."

Personal

Dr. Arnozan, professor of therapeutics in the College of Medicine at Bordeaux, has been named at his own request professor of clinical medicine to fill the place of Dr. Picot. At the same college Dr. Villar, professor of operative medicine, has been nominated at his own request professor of clinical surgery to replace Dr. Lannelongue.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, July 7, 1909.

Death of Pfannenstiel

Professor Pfannenstiel, the director of the gynecologic clinic at Kiel, died July 2, from blood poisoning, at the age of 47. In 1902 he became successor of Professor Löhlein, and in 1907 came to Kiel as the successor of Professor Werth. He has been a successful worker in his specialty and, as I understand, was looked on as the probable successor of Professor Olshausen of our university. Olshausen has not only survived him but continues to hold his position in spite of his advanced age (74 years), as we have no law limiting the period of a professor's activity.

Vaccination in Russia

The Russian correspondent of the *Deutsche medizinische Wochenschrift* reports on the status of vaccination in that country which is characteristic of the intellectual condition of our eastern neighbor. The government has brought forward a bill for general compulsory vaccination, but this has been rejected by the commission appointed to consider the matter. The reason for this rejection is not known but the correspondent believes that no mistake would be made if the chief reason for this action were sought in religious objections, which are brought out by the fact that the strong sect of "old believers" (*Altgläubigen*), which includes some 10,000,000 members, oppose vaccination on the ground that they see in the vaccination scarification the sign of Antichrist. In the opinion of the correspondent the superstitious Russian people would treat physicians attempting to carry out compulsory vaccination no better than they did last summer when they set fire to a cholera hospital and cudgelled the physicians out of the village. There still remains an indirect method of compelling vaccination which consists in the requirement that every child on entering school shall furnish a medical certificate of vaccination. In addition during an extensive smallpox epidemic, all of the pupils must be vaccinated. Finally a yearly compulsory vaccination occurs on an occasion of enlistment of recruits for the army. How well these regulations are carried out in a country in which the rabble may overcome the most sacred law is uncertain.

Pharmacology

Vanadium and Its Therapeutic Uses

To the Editor:—(1) Of what therapeutic value is vanadium or any of its preparations? (2) In what form is it used? (3) What literature can be had on this subject?

E. A. W.

Answer: 1. The therapeutic value of vanadium was discussed in The Journal, May 9, 1908, page 1549. In addition to the statements there made, we may refer to the careful study of this substance by Lyonnet, Martz and Martin. These authors could not demonstrate any antiseptic power, since they found that in the proportion of 1 to 1,000 sodium metavanadate only slightly hindered the growth of the typhoid bacillus. The remedy appears to act much like arsenic and is regarded by Lyonnet, Martz and Martin as a "spur to nutrition." They state that *in vitro* sodium metavanadate has very little action on digestive ferments, on the sugar in the blood, on yeasts or on microbes. The claims made for vanadium have not led to its wide use; in fact until the investigations have been confirmed by reliable clinicans, the remedy must be regarded as in the experimental stage.

2. Lyonnet, Martz and Martin used sodium metavanadate, $NaVO_3$, in doses of 1 to 5 mg. (1/60 to 1/12 grain) in twenty-four hours given per os. They recommend giving the salt intermittently only two or three days a week. Le Blond and David used for internal use a solution containing 0.0015 gm. of vanadic acid, HVO_3 (1/40 grain to the quart), which they gave in doses of 2 tablespoonfuls a day. The remedy is not proprietary, although the attempt is being made to put on the market proprietary preparations for which extravagant claims are made and which are sold at a high price. The name of one of these—Vanadioserum Hélouis—suggests the idea of its being some sort of animal serum, which is misleading. The use of this rare element does not appear to be a promising field for experimentation, but if the physician desires to try it, we recommend that he obtain the pure substance through a dealer in chemicals, instead of using the proprietary preparation, the composition and strength of which are uncertain.

3. The following chronologic list includes practically all the references to vanadium in medical literature since its introduction into therapeutics:

Platt: *Lancet*, Jan. 15, 1876.
Dowdeswell: Changes in Liver. *Jour. Physiol.*, 1878, 1, pp. 251-261.
Gamgee, A., and Larmuth: *Jour. Anat.*, ii, Part 2, 1879, p. 235 and 253.
Priestly, J., and Gamgee, A.: *Phil. Tr. Roy. Soc.*, Lond., 166, p. 2.
Laran: Le vanadium et ses composées, leur propriĕtés chimiques applicables à la therapeutique, nouveaux remĕdes, 1898, xiv, pp. 130-135.
Weber, A.: De emploie des sels de vanadium en therapeutique. *Rev. gén. de clin. et de thérap.*, 1898, xii, pp. 339-341.
Lyonnet, Martz et Martin: De l'emploie des sels de vanadium. *Lyon méd.*, 1899, xc, pp. 289-302.
Luzzatta, R.: Contributo alla studio farmacologicá del vanadio. *Arch. di farm. e terap.*, 1903, xi, pp. 42-82.
Le Blond, A., and David, C.: Recherche sur la proprietés de l'acide vanadique en particulier topique. *Jour. de méd. de Paris,* 1903, 2 S. xv, pp. 191-193; *Répert. de thérap.*, 1903, xx, pp. 120-123; *Rev. prat. d'obst. et de gynéc.*, 1903, pp. 175-178.
Boguslawski, S.: Preparaty vanadium. *Medycyna*, 1904, xxvii, pp. 340-344.
Perlemann, A.: Contribution a l'etude du vanadium an point de vue therapeutique et clinique. Geneve, 1904, C. Zoelner, p. 88.
Le Blond and David: *Progrès méd.*, July 14, 1906.

Correspondence

Contagion and Consistency

To the Editor:—We are going through a period of health revival and it is good to look a little at our inconsistencies: we may derive benefit from so doing. We all admire the noble, scientific and disinterested work done by investigators. From their researches we know how diseases are disseminated, carried through or by this or that insect; we understand the germ theory and the methods of proliferation of these parasites. We wage war on disease by waging war on flies, mosquitoes, rats, etc. We are extremely careful about keeping everything clean around us—at least we believe we are. Laws have been passed to quarantine (?) infected people or cause a segregation of diseased from healthy ones. In large cities isolation hospitals have been built and their construction for small towns is being agitated.

To all appearances we could well rest on the work done; but let us see to it that books, newspapers, magazines, etc., do not accumulate on tables in our waiting-rooms, because of the danger of skin and other diseases being carried from one patient to another. Having done this we could work towards having a complete sterilization of all public library books as soon as returned. Clothing and other fomites are great carriers of infection; infected clothing that has been unused for years has been the cause of epidemics. Why not, therefore, make it compulsory for physicians to wear special clothes when attending cases of contagious disease? Such clothing could be made of material easily disinfected before being worn from house to house. Did we thus set a good example ourselves and show more consistency, quarantine regulations, which in very many places are a farce, could be more easily enforced. EMILE ROY, M.D., Wausau, Wis.

Filter Paper Test for Bile in Gastric Contents

To the Editor:—Since the publication of my article entitled "A Delicate Test for Bile in the Gastric Contents," in THE JOURNAL, May 20, 1909, p. 1758, my attention has been called to Rosenbach's test for bile in the urine. This consists in filtering the urine several times through the same filter paper and applying nitrous acid to the filter paper after drying, to obtain the reaction for bile. I have never used the Rosenbach test for bile in the urine, but, working entirely independently of that method or other methods, I have found that the filter paper test for bile in gastric contents as described by me, will detect the presence of bile, when no reaction for bile will be obtained when nitrous acid is applied to the filtered gastric contents themselves.

ALBERT WOLDERT, M.D., Tyler, Texas.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HYPODERMATIC ADMINISTRATION OF PURGATIVES

To the Editor:—What medicine can be used hypodermatically as a purgative? C. M. WASSELL, Tillar, Ark.

ANSWER.—Podophyllo-toxin, aloin, cathartic acid, colocynthin, and citrullin are capable of producing purgation when administered hypodermatically, but they are all too irritant for practical use. Physostigmin is also not safe or satisfactory. Apocodein appears to be the only known substance which has practical value for this purpose. It produces soft but not numerous or very watery stools. From 0.02 to 0.06 gm. (⅓ to 1 grain) of the hydrochlorate may be injected with proper antiseptic precaution. The dilution should be from 3 to 1 per cent. It sometimes produces distinct irritation at the place of injection.

TENOTOMY FOR PIANISTS

To the Editor:—Please give some information about tenotomy as used to increase or allow freer movements of the "ring" finger in musicians. What results, if any, have thus been accomplished?

J. H. H., Chicago.

ANSWER: Formerly the bands connecting the extensor tendon of the ring finger to those of the little and middle fingers were frequently divided by either the open or the closed method. One or both were cut, depending on the freedom of motion desired and on the amount of faith placed in the procedure. The results were disappointing as no greater increase in freedom of motion was obtained. The best evidence of the inefficiency of this procedure is the fact that the operation is now rarely performed.

The Public Service

Medical Department of the Army

Changes of stations and duties of medical officers, during the week ended July 17, 1909:

Le Wald, Leon T., capt., granted leave of absence for 25 days.

Gosman, George H. R., capt., granted leave of absence for one month, August 1st.

Shaw, Henry A., major, granted leave of absence for one month.

Loving, Robert C., capt., granted leave of absence for four months.

Birmingham, Henry P., lieut.-col., granted leave of absence for two months.

Laframme, Frank L. K., dental surgeon, ordered to Rock Island Arsenal, Illinois, for temporary duty.

Ames, John R., dental surgeon, granted leave of absence for one month.

Ryan, Edward P. R., dental surgeon, relieved from duty at Fort Leavenworth, Kansas, and ordered to Fort D. A. Russell, Wyo., for duty.

Medical Corps of the Navy

Changes for the week ended July 17, 1909:

Smith, H. W., P. A. surgeon, detached from duty at the Naval Medical School Hospital, Washington, D. C., and ordered to temporary duty at the navy yard, Boston.

Reeves, I. S. K., P. A. surgeon, ordered to treatment at the Naval Medical School Hospital, Washington, D. C.

Odell, H. E., surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the Naval Station, Guam, M. I.

Angenry, G. L., surgeon, detached from the Naval Station, Guam, M. I., and ordered home to await orders.

Winn, C. K., asst.-surgeon, detached from the Naval Hospital, Newport, R. I., and ordered to the Naval Station, Key West, Fla.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended July 14:

Bailhache, P. H., surgeon, granted three months' leave of absence from Aug. 1, 1909.

Gasaway, J. M., surgeon, directed to proceed to Tuckerton and Atlantic City, N. J., for the purpose of examining keepers and surfmen of the life saving service.

Guiteras, G. M., surgeon, directed to proceed to Austin and other points in Texas on special temporary duty.

Wickes, H. W., passed assistant surgeon, granted one month's leave of absence from Aug. 1, 1909.

Cumming, Hugh S., passed assistant surgeon, granted one month's leave of absence from Aug. 1, 1909.

Clark, T., passed assistant surgeon, granted thirty days' leave of absence from Aug. 16, 1909.

Bahrenburg, L. P. H., passed assistant surgeon, directed to proceed to Point Pleasant, N. J., for the purpose of examining keepers and surfmen of the life saving service, July 12, 1909; granted fifteen days' leave of absence from Aug. 1, 1909.

Warren, B. S., passed assistant surgeon, granted three days' leave of absence from July 6, 1909.

Ebersole, R. E., passed assistant surgeon, granted six days' leave of absence from March 6, 1909. Paragraph 191 Service Regulations.

Roberts, Norman, passed assistant surgeon, directed to proceed to Ocean City, Md., and Chincoteague, Wachapreague and Cape Charles City, Va., for the purpose of examining keepers and surfmen of the life saving service.

Mullan, Eugene H., passed assistant surgeon, granted two days' leave of absence from July 12, 1909.

Preble, Paul, assistant surgeon, relieved from duty at Baltimore, Md., and directed to report at Bureau for duty; assigned for duty in charge of [illegible].

Hunt, Reid, chief [illegible] ogy, hygienic laboratory, detailed to attend [illegible] congress on alcoholism to be held in Lon[illegible], [illegible] and the sixteenth international medical congress to be held in Budapest, Hungary, Aug. 29-Sept. 4, 1909.

Earl, F. D., acting assistant surgeon, granted seven days' leave of absence from July 20, 1909.

O'Reilly, W. J., acting assistant surgeon, granted ten days' leave of absence from July 27, 1909.

Safford, M. V., acting assistant surgeon, granted seven days' leave of absence from July 7, 1909. Paragraph 210 Service Regulations. Granted three days' leave of absence from July 15, 1909.

Schmitt, L. S., acting assistant surgeon, granted thirty days' leave of absence from July 2, 1909, without pay.

Storrs, Henry R., acting assistant surgeon, granted four days' leave of absence from July 20, 1909.

Tarbell, B. C., acting assistant surgeon, granted thirty days leave of absence from Aug. 1, 1909, with pay, and fourteen days' leave from Aug. 31, 1909, without pay.

Weeks, Alamson, acting assistant surgeon, granted thirty days' leave of absence from July 10, 1909.

Weldon, Wm. A., acting assistant suregon, granted one month's leave of absence from Aug. 15, 1909.

APPOINTMENTS

Dr. Walter R. Brinckerhoff reinstated and appointed assistant director of the leprosy investigation station at *Molokai, T. H.*

Dr. Harry T. Hollman appointed an acting assistant surgeon for duty at the leprosy investigation station at Molokai, T. H.

Dr. H. B. Ross appointed an acting assistant surgeon for duty at Del Rio, Texas.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 16, 1909:

SMALLPOX—UNITED STATES

Illinois: Chicago, June 27-July 3, 2 cases; Danville, June 28-July 4, 2 cases; Springfield, May 28-June 11, 2 cases.
Kansas: Kansas City, June 27-July 3, 1 case.
Kentucky: Covington, June 27-July 3, 2 cases; Lexington, 2 cases.
Louisiana: New Orleans, June 27-July 3, 3 cases.
Massachusetts: Lawrence, June 27-July 3, 1 case.
Missouri: St. Louis, June 19-26, 2 cases.
New York: General, May 1-31, 411 cases.
Ohio: Cincinnati, June 26-July 2, 1 case.
Texas: San Antonio, June 27-July 3, 3 cases.
Washington: Spokane, June 19-26, 1 case; Tacoma, June 20-27, 2 cases.
Wisconsin: Appleton, June 19-26, 1 case; Milwaukee, June 20-27, 2 cases.

SMALLPOX—INSULAR

Philippine Islands, Manila, May 22-29, 5 cases, 1 death.

SMALLPOX—FOREIGN

Argentina: Rosario, April 1-30, 1 death.
Brazil: Pernambuco, March 20-May 15, 26 deaths.
Canada: Halifax, June 19-26, 2 cases.
China: Amoy, June 1-5, 3 deaths; Hankau, May 8-15, present; Hongkong, May 15-29, 7 cases, 5 deaths; Shanghai, May 15-June 5, 2 deaths; Tientsin, May 1-8, 1 case, 1 death.
Ceylon: Colombo, May 22-29, 2 cases.
Egypt: Cairo, May 27-June 3, 3 cases, 4 deaths; Suez, May 20-June 17, 42 cases, 3 deaths.
India: Bombay, June 2-8, 10 deaths; Calcutta, May 15-29, 64 deaths; Madras, May 29-June 4, 3 deaths; Rangoon, May 22-29, 2 deaths.
Indo-China: Saigon, May 8-15, 6 cases, 3 deaths.
Italy: General, June 13-20, 14 cases; Naples, 8 cases, 4 deaths; Rome, March 6-13, 1 case, 1 death.
Java: Batavia, May 22-29, 2 cases.
Mexico: Aguascalientes, June 20-27, 1 death; Guadalajara, June 10-17, 1 death; Mexico City, May 15-22, 17 deaths; Monterey, June 13-27, 10 deaths; Veracruz, May 20-June 19, 1 case, 1 death.
Portugal: Lisbon, June 19-26, 3 cases.
Russia: Moscow, June 5-12, 43 cases, 7 deaths; Odessa, May 29-June 19, 7 cases; Riga, June 12-26, 10 cases; St. Petersburg, May 29-June 5, 19 cases, 1 death; Warsaw, April 24-May 8, 6 deaths.
Siam: Bangkok, May 1-28, 1 case, 1 death.
Switzerland: Geneva, June 5-12, 1 case.
Siberia: Vladivostok, May 14-21, 1 case.
Spain: Barcelona, June 7-21, 8 deaths; Valencia, May 29-June 19, 22 cases, 1 death; Vigo, 4 deaths.
Turkey in Europe: Constantinople, June 6-13, 4 deaths.
Turkey in Asia: Bassorah, June 5-12, present.

YELLOW FEVER

Barbados: Parish St. Joseph, June 12-19, 1 case.
Brazil: Manaos, June 5-12, 2 cases; Pernambuco, March 20-May 15, 7 deaths.

CHOLERA—INSULAR

Philippine Islands, Provinces, May 22-29, 14 cases, 5 deaths.

CHOLERA—FOREIGN

India: Bombay, June 2-8, 11 deaths; Calcutta, May 15-29, 117 deaths; Madras, May 29-June 4, 1 death.
Indo-China: Saigon, May 8-15, 1 case.
Russia: Bachmatschowo, June 24, 1 case, 1 death; Cronstadt, June 18, 2 cases; Mariechamn, June 23-24, 1 case, 1 death; St. Petersburg, June 18-24, 379 cases, 105 deaths; St. Petersburg Government, June 23-24, 8 cases, 1 death.
Siam: Bangkok, May 1-28, 1 case.

PLAGUE

Chile: Iquique, June 2, 10 cases in the lazaretto.
China: Amoy, June 1-5, 25 deaths; Canton, May 1-29, 110 cases, 85 deaths; Hongkong, May 15-29, 24 cases, 23 deaths; Pollam, May 22-29, 8 cases, 7 deaths; Touchowfu, present; Yin Shan, present.
India: Bombay, June 2-8, 56 deaths; Calcutta, May 15-29, 174 deaths; Rangoon, May 22-29, 13 deaths.
Indo-China: Saigon, May 8-22, 5 cases, 2 deaths.
Japan: Kobe, June 5-12, 1 case, 1 death.
Peru: General, May 5-19, 13 cases, 8 deaths.
Siam: Bangkok, May 1-28, 1 case, 1 death.
Trinidad: June 12-19, 2 cases.

Marriages

Louis E. Love, M.D., to Miss Rena Hall, both of Dardanelle, Ark., June 30.

John A. Mohlenhoff, M.D., to Miss Mary E. Seward, at Baltimore, June 29.

Ethel S. Mitchell, M.D., and Earl Newton, both of Concord, N. H., June 17.

William E. Buist, M.D., to Miss Ethel Powell, both of Nashville, Tenn., July 4.

Charles Floyd Jump, M.D., to Miss Genevieve Benepe, both of Bozeman, Mont., July 1.

H. Montague Francis, M.D., Gilbert, Minn., to Miss Nellie Hazel Ham, of Chicago, June 24.

Stanley J. Briggs, M.D., Sun Prairie, Wis., to Miss Selma Toepfer, of Madison, Wis., July 1.

Walter B. Hotchkiss, M.D., to Miss Winifred Godfrey, both of Chehalis, Wash., June 23.

J. George Smetzer, M.D., Baltimore, to Miss Cora O'Donovan Caldwell, at Baltimore, July 8.

Clyde McKay Beck, M.D., Coahoma, Miss., to Miss Dorothy Brema Coors, of Memphis, Tenn., June 29.

Arthur W. Swann, M.D., New York City, to Miss Susan R. Sedgwick, of Stockbridge, Mass., July 3.

Erria D. Stump, M.D., Charleston, W. Va., to Mrs. Edna Crawford Cunningham, of Cincinnati, July 3.

Harold Henderson Meanor, M.D., Coraopolis, Pa., to Miss Mary M. Baker, of Centerville, Pa., June 22.

Thomas Pollock Ranney, M.D., Chicago, to Miss Bertha Kuehn, of Eveleth, Minn., at Duluth, June 26.

Francis Stapleton Chambers, M.D., Mount Airy, Philadelphia, to Miss Mary Catherine Schley, at Lake Shore, Adirondacks, N. Y., July 3.

Deaths

Eugene Beach, M.D. Long Island College Hospital, Brooklyn, 1866; a member of the Medical Society of the State of New York; a member of the staff of the Nathan Littauer Hospital, Gloversville, and mayor of that city from 1904 to 1907; for many years a member of the local board of education, and health officer; a member of the State Board of Medical Examiners; died at his home July 7, from cerebral hemorrhage, aged 70.

William Herbert Powers, M.D. Vanderbilt University, Nashville, Tenn., 1900; a member of the American Medical Association; president of the Marion County (Fla.) Medical Association; surgeon to the Marion County Hospital; local surgeon to the Atlantic Coast Line Railroad; a member of the Ocala Board of Health; died at his home, July 4, from tuberculosis, aged 33.

Matthew Stuart Caldwell, M.D. New York University, New York City, 1879; of Far Rockaway, N. Y.; a member of the Medical Society of the State of New York; visiting physician to and president of the staff of St. Joseph's Hospital, Far Rockaway; died in St. Francis' Hospital, the Bronx, July 6, from pleurisy, aged 59.

Richard Cummings Stockton Reed, M.D. Cincinnati College of Medicine and Surgery, 1860; and at one time president of the college; formerly a member of the American Medical Association and one of the best-known practitioners and medical teachers of Cincinnati; died at his home in Stockton, Cincinnati, July 8, aged 84.

Andrew Joseph Dower, M.D. Bellevue Hospital Medical College, New York City, 1878; a member of the American Medical Association; formerly a member of the board of education of Brooklyn; died at his home in South Brooklyn, July 10, from pneumonia, aged 59.

John C. Pannenborg, M.D. University of Louisville (Ky.), 1894; a member of the American Medical Association; and first president of the Lake County (Ind.) Medical Society; organizer of the Hammond Hospital; died at his home in Hammond, July 9, aged 54.

Maurice Lowell Baum, University of California, San Francisco, 1904; of San Francisco; a member of the Medical Society of the State of California; was found dead in a hotel in San Francisco, July 7, from poisoning by chloroform and morphin.

Gerald Paul Garrigan, M.D. College of Physicians and Surgeons, New York City, 1902; of New York City; a member of the American Medical Association; died suddenly in Troy, N. Y., July 4, from heart disease, aged 29.

Philip L. Green, M.D. Western Reserve University, Cleveland, Ohio, 1867; of Vermontville, Mich.; died at the home of his niece in Allentown, Ill., July 7, from cancer of the stomach, aged 72.

Melvin F. Howe, M.D. Hahnemann Medical College, Chicago, 1888; of Lake Charles, La.; died at the home of his brother near Marion, Iowa, July 5, aged 43.

Russell G. Andrews, M.D. Albany (N. Y.) Medical College, 1866, for more than forty years a resident of Navesink, N. J., died at his home, July 6, aged 68.

H. Earle Grizzard, M.D. Vanderbilt University, Nashville, Tenn., 1907; died at his home near Goodlettsville, Tenn., July 4, from typhoid fever, aged 26.

James Campbell McClure, M.D. University of Georgetown, D. C., 1899; died at his home in Williamstown, N. J., July 5, from septicemia, aged 35.

James McRuark, M.D. McDowell Medical College, St. Louis, 1852; died at his home in Willisville, Ill., Jan. 20, 1908, from senile debility, aged 84.

Andrew P. Daughters (license, Ind., years of practice, 1897); died at his home in Moore's Hill, Ind., July 7, from cerebral hemorrhage, aged 79.

John S. Holland, M.D. Charity Hospital Medical College, New Orleans, 1875; of Bernham, Texas; died May 10, at Beaumont, Texas, aged 73.

Andrew Easley, M.D. Jefferson Medical College, Philadelphia, 1866; a Confederate veteran; died at his home in South Boston, Va., July 27.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: San Francisco, August 3. Sec., Dr. Charles L. Tisdale, Butler Bldg.

Georgia: Regular, Capitol Bldg., Atlanta, August 3-4. Sec., Dr E. R. Anthony, Griffin.

Nebraska: State Capitol, Lincoln, August 11-12. Sec., Dr. E. J. C. Sward, Oakland.

University of Missouri Abandons Clinical Teaching

The announcement of the School of Medicine of the University of Missouri for 1909-10 states that, owing to the limited clinical facilities at Columbia, the teaching of the last two years of the medical course will be temporarily suspended, to be resumed as soon as adequate clinical facilities are available. In the meantime the curriculum of the first two years is being strengthened. Beginning in September, 1910, two years of college work, including courses in physics, chemistry, zoology, English and German, will be required for admission.

State Board Contest in Nebraska

The establishment of a new State Board of Health by the recently elected governor of Nebraska has been contested. Until the matter is settled in the courts all examinations will be conducted by the former board, of which Dr. E. J. C. Sward, Oakland, Nebraska, is secretary. All of the state records and papers will remain in the hands of the old board until the final decision by the Nebraska Supreme Court is rendered.

Delaware June Report

Dr. Henry W. Briggs, secretary of the Medical Council of Delaware, reports the written examinations held at Dover and Wilmington, June 15-17, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 14, of whom 13 passed and 1 failed. One reciprocal license was issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Baltimore University	(1900)	77.8
University of Maryland	(1908)	78.3, 79.7
Atlantic Medical College, Baltimore	(1909)	93.4
Albany Medical College	(1909)	78.4
[illegible] Medical College	(1909)	85.8, 91.
[illegible] of Philadelphia	(1909)	82.9
[illegible]	(1909)	88.6, 89.9, 91.5
Hahnemann Medical College and Hospital, Philadelphia	(1899) (1909)	90.5; 89.3.

FAILED

College	Year Grad.	Per Cent.
Maryland Medical College	(1907)	72.7

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Bellevue Hospital Medical College	(1894)	New York

Book Notices

Modern Medicine. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England. Assisted by Thomas McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. VI. Diseases of the Urinary System—Diseases of the Ductless Glands—Diseases of Obscure Causation—Diseases of the Muscles—Vasomotor and Trophic Disorders—Life Insurance. Cloth. Pp. 799, with illustrations. Price, $6. Philadelphia: Lea & Febiger, 1909.

This volume of "Modern Medicine" is divided into six parts. Part I deals with diseases of the urinary system. An instructive chapter introductory to diseases of the kidneys is contributed by John McCrae of Montreal, who also writes on malformations and circulatory disturbances of the kidneys. Garrod of London contributes two excellent chapters on anomalies of the urinary secretion and on uremia. Herrick of Chicago is the author of the chapters on nephritis (acute, chronic parenchymatous, chronic interstitial) and of the chapter on amyloid disease of the kidney. Thomas R. Brown of Baltimore discusses the bacteriology of the urinary tract, the pyogenic infections of the kidney, ureter and perirenal tissue and tuberculosis of the kidney, and H. H. Young of Baltimore writes on tumors of the kidney, on renal and ureteral calculi, on genitourinary diagnosis. While the treatment of all these subjects merits only praise, the chapters on nephritis deserve special commendation for their clearness and thoroughness and for the careful directions as to treatment.

Part II comprises the diseases of the ductless glands (the adrenals, the thyroid, including the parathyroids, and the pituitary body). It is written by G. Dock of New Orleans, and is a painstaking and complete summary of our knowledge in regard to these structures and their diseases, including exophthalmic goiter, cretinism, myxedema and acromegaly.

Part III, "Diseases of Obscure Causation," includes Hodgkin's disease by Longcope of Philadelphia, arthritis deformans by Thomas McCrae, osteomalacia by Dock, and astasia-abasia and adiposis dolorosa by D. J. McCarthy of Philadelphia—all excellent presentations.

Part IV deals with diseases of the muscles. Myositis, Thomsen's disease and myotonia congenita are discussed by W. R. Steiner of Hartford; myasthenia gravis, paramyoclonus multiplex and periodic paralysis by D. J. McCarthy. Both acquit themselves with credit.

Part V, "Vasomotor and Trophic Disorders," contains chapters on Raynaud's disease, angioneurotic edema, and diffuse scleroderma and erythromelalgia by William Osler, in which his usual grasp of the subject and charm of presentation are fully evident, and also a well-balanced and rich chapter by Charles P. Emerson of the Clifton Springs Sanitarium on achondroplasia, hypertrophic pulmonary osteoarthropathy, Paget's disease, osteogenesis imperfecta, osteopsathyrosis, leontiasis ossea, microcephalus and facial hemiatrophy.

Part VI is a valuable and instructive discussion of the medical aspects of life insurance by Charles Lyman Greene of St. Paul.

The volume maintains fully the high standard of its predecessors in the system. The parts on diseases of the urinary system and on diseases of the ductless glands in a way constitute a series of monographs in which the knowledge in these fields is presented by authoritative writers and teachers. Many of the other diseases considered are rare diseases, and consequently barely mentioned in the text-books. In this volume our present knowledge of these diseases is given in detail by authors who in almost every instance are specially qualified to do so by reason of exceptional opportunities for observation and of special study.

Studies on Immunity. By Robert Muir, M.A., M.D., Professor of Pathology, University of Glasgow, in Collaboration with Carl H. Browning, M.D., Alexander R. Ferguson, M.D., and William B. M. Martin, M.B., Ch.B. Cloth. Pp. 216. Price, $3.00. New York: Oxford University Press, 1909.

This volume of 216 pages is a revised reprint of eleven papers originally published in various journals by Muir alone, or by Muir in collaboration with Browning or Martin. They appeared from the years 1903 to 1909 and treated of such subjects as "The Action of Hemolytic Sera," "The Combining

Properties of Serum-Complements and on Complementoids," "Chemical Combination and Toxic-Action as Exemplified in Hemolytic Sera," "The Hemolytic Receptors of the Red Corpuscles," "The Properties of Anti-immune Bodies and Complementoids," "The Action of Complement as Agglutinin," "The Deviation of Complement . . . and Its Relations to the Precipitin Test," "The Combining Properties of Opsonins of Normal Serums," "The Combining Properties of the Opsonin of an Immune Serum," "The Bactericidal Action of Normal Serum," "The Filtration of Serum Complement."

The subject-matter is divided into three parts: Part I: "Properties of the Hemolytic Sera;" Part II: "The Properties of an Anti-Serum to a Serum-Deviation of Complement and Its Relation to the Precipitin Test;" Part III: "The Antibacterial Properties of Serum."

Inasmuch as discoveries which were made subsequent to the publication of some of the papers necessarily modify some of the conclusions expressed, certain addenda have been made for the purpose of correcting the original interpretations. The material has been so modified and arranged as to secure a consecutive presentation.

The volume represents a type of publication which ought to be encouraged. A number of laboratories in this country and abroad have each followed some particular line of investigation for a series of years, and they may safely be considered as experts in their respective lines of work. Consequently, a volume which presents the work which one of them has actually covered, and which treats analytically of the work of others in the same line, should stand as an authoritative treatise on the subject. Such a publication, furthermore, provides a monument to the men and the laboratory concerned in the original work. The "Collected Studies on Immunity" by Ehrlich and his co-workers is a splendid example of this type of publication.

GYNECOLOGIC DIAGNOSIS. By George Winter, O. O. Professor and Director of the Klg. Universitäts Frauenklinik in Königsberg, Prussia, with the Collaboration of Dr. Carl Ruge, of Berlin. Edited by John G. Clark, M.D., Professor of Gynecology, University of Pennsylvania. After Third Revised German Edition. Cloth. Pp. 670, with illustrations. Price, $6.00. Philadelphia: J. B. Lippincott & Co.

This is a translation of a well-known German work, but, unlike many translations, it would be difficult to distinguish it from an original work in English. This edition has been entirely rewritten and the text has been brought up to date. The number of illustrations of the original is almost doubled and many old drawings have been replaced by photogravures. The work is arranged in three parts, comprising general diagnosis, specific diagnosis and analytic diagnosis. The first part deals with the modern methods of diagnosis, external and internal, including the methods of using vaginal and rectal specula, cystoscopy, bacteriologic methods and radiography. Obsolete methods have been excluded. The second part, on specific diagnosis, is probably the most important of the three. It starts with the description of normal findings and then takes up deviations, abnormalities and diseased conditions. The third part deals with the methods of arriving at diagnosis by reasoning from the history given by the patient and by exclusion. In this part of the book are discussed the various disorders of menstruation, hemorrhage, sterility, abdominal tumors, etc. This valuable book is to be commended.

GOLDEN RULES OF DIETETICS. By A. L. Benedict, A.M., M.D., Buffalo. Author of Practical Dietetics. Cloth. Pp. 407. Price, $3.00. St. Louis: C. V. Mosby, 1908.

The importance of the science and art of dietetics is coming to be more generally recognized by the medical profession and a knowledge of at least the fundamentals of the science is essential to the intelligent practice of medicine. Many of the books that have appeared on the subject are open to one of two criticisms: they are either so exhaustive as to repel the general practitioner, or, in an attempt to be succinct, they are superficial to the point of uselessness. Dr. Benedict seems successfully to have avoided both extremes and if for no other reason this book is a welcome addition to the literature of dietetics. While the subject has been handled conservatively the author is evidently alive to the advances that have been made in recent years in the science of feeding. The eminently sane tone that pervades the work is noticeably present in the chapter dealing with diet in diabetes. In the first part of the book are chapters on physiologic chemistry, standard diet in health, the preparation and composition of food, and Dr. Benedict's condensation of Bryant and Atwater's analysis of foodstuffs. The last half of the book is given over to the consideration of diet in special pathologic conditions.

JAHRESBERICHT ÜBER DIE FORTSCHRITTE DER INNEREN MEDIZIN IM IN- UND AUSLANDE. Redaktion: Dr. Schreiber, in Magdeburg, Dr. Rigler in Leipzig. Bericht über die Jahre 1902 und 1903. 1. Band. Paper. Pp. 776. Leipzig: Verlag von Dr. Werner Klinkhardt, 1909.

This volume presents a complete review of the world's literature on internal medicine for the year 1902 and 1903. Owing to its late appearance it naturally will serve chiefly as a source of reference to authors. This defect is to be partly made good in the publication of subsequent volumes which will follow, so that the literature of 1908 will be reviewed in a short time and that of 1904 and 1905 also before the end of the year. Next year the volumes for 1906 and 1907 and 1909 will be published, thus bringing the series up to date.

Miscellany

Drugs of the Olden Time

The general belief is that almost all of the substances used in old-time medicine were practically useless and that their employment was due to tradition, supported by the fact that most diseases and injuries have a tendency to recovery of themselves. Yet it is surprising how much of the old empirical medicine has survived in the practice and is confirmed by the theory of the present day. Sir William R. Gowers, in his second series of lectures on the nervous system ("Subjective Sensations of Sight and Sound, Abiotrophy and Other Lectures," Philadelphia, Blakiston, 1904) has a very striking passage on this subject:

"It is strange, indeed, to note how far back goes the use of the drugs on which we most rely. Most of them can be traced far back into the distant past until they are lost in the blue mists which shroud alike the hills of Greece and the deserts of Arabia, or to the time when the world learned its wisdom from the land where now the symbols of man's thought lie deep beneath the desert sand or stand silent in the cold moonlight of a long dead past. We smile at the popular herbal remedies. But it is to these that we owe the majority of our most useful drugs. I can not conceive a therapeutist surveying a list of the chief drugs on which we depend in our daily work—and do not depend in vain—without a sense of wonder and perhaps of humiliation. We disinfect our rooms with burning sulphur; and so men did before the time of Homer. We purge sometimes with rhubarb, especially when some subsequent astringent influence is desirable, and so did the old Arabians for the same special reason. The value of castor oil in its chief use was familiar, probably for ages, to the natives of the East and of the West Indies before it was made known in Europe by a physician from Antigua one hundred and fifty years ago. Aloes was employed in the same way long before the time of Dioscorides and Pliny. The knowledge of the influence of ergot in parturition we owe to the peasants of Germany, and the use of male-fern for tapeworm goes back to the old Greeks and Romans. The employment of mercury in syphilis by inunction and fumigation, which our nineteenth century therapeutists regard with such satisfaction, seems to go back to the time of the crusades, and it is said that its use can be traced in Malabar as far back as the ninth century. Podophyllum as a purgative we owe to the North American Indians."

John Russell's "Book of Nurture," a Harleian manuscript, which dates from the fifteenth century, and which was first printed for the Early English Text Society by Dr. Furnivall about forty years ago in a collection of hitherto unedited texts called "The Babees' Book" (recently republished by Duffield, New York), has an account of some of the herbs that were commonly used at that time for the treatment of injuries and ailments of various kinds. As here suggested, they were used in a bath, but they were evidently the ordinary simples of the time. Among them fennel, pellitory, which contains nitrate of potash, and camomile are still used as home remedies. Centaury, so named from the legend that by a decoction of it Chiron, the centaur, was cured, is a plant of the gentian family, which is still considered valuable as a bitter. Heyriff is said to be still used in France as an internal remedy for epilepsy. Herb-bennett—a name derived from the term "herba benedicta," or the blessed herb—was supposed to be particularly efficacious in driving away the devil. This was very probably one of the forms of valerian; we still use it in driving out devils, though we often are not very successful because the blue devils of hysteria do not yield readily. As external applications the common daisy and mallow from the marshmallow were used. The main virtue of these undoubtedly lay in the fact that they were thoroughly boiled before being applied, and therefore were probably aseptic. As they made a coating over the wound, they served—and this was especially true of the marshmallow—as a protective almost as efficient as the modern collodion.

Apparently, they had many "blood purifiers" in the old days which we still have with us, their efficacy being due in part to suggestion and in part to their laxative effect. Danewort, a dwarf elder, for instance, was traditionally thought to have sprung up by a sort of spontaneous generation wherever there had been an encounter between the English and the Danes. The mixture of these two virile bloods was supposed to make for wonderful blood-purifying properties in the herb that resulted; it is still employed sometimes because of its purgative properties. Flaxseed was employed for its supposed power over coughs; flaxseed tea was usually taken three cupfuls a day. The most efficient cough remedy that we have even at the present day when coughs are hard, is an abundance of fluid. Besides, flaxseed tea was a mucilage and all of the mucilages are valuable for their protective property for the throat irritated by the explosion of coughing. Evidently the drugs of our forefathers deserve less scorn than we have given them.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

DIVISION OF FEE AND COMMISSIONS TO PHYSICIANS *

AUGUSTUS A. ESHNER, M.D.
PHILADELPHIA

Articles of commerce pass, as a rule, through several hands before they reach the consumer. A certain profit or commission properly accrues to each of those that effect a sale. The price of such articles varies in accordance with the laws of political economy, being affected especially by the cost of production and of marketing, as well as by conditions of supply and demand. Occasionally, for reasons of expediency, goods are sold at a loss; but rarely are they given away gratuitously.

The profession of medicine, while it has certain business aspects, differs radically from the various forms of commercial and industrial activity. It is, however, neither a business nor a trade. The medical man, like his neighbors in the community, must pay taxes and rent, and he must provide the necessities of life for himself and his family, and to meet these obligations he must have a definite source of income. From esthetic considerations his expenses are greater than those of laymen occupying a corresponding social position. His work requires his personal attention, and he can not readily delegate it to others as can the business man; nor can he, like the manufacturer, multiply the product of his activity through the agency of machinery and subordinates. His opportunities for relaxation, diversion and entertainment are restricted by the demands that may be made on his time at any hour of the day or night, and he can indulge in protracted holidays only at the sacrifice of income and practice.

Throughout his entire professional career the physician renders without pecuniary compensation a large measure of service in hospital and dispensary, in his office and in the homes of the poor. In addition he does a not inconsiderable amount of work for which he fails to receive the material reward to which he is morally and lawfully entitled.

Physicians' fees necessarily differ in accordance with the nature of, and the time required in, a given case on the one hand and the skill and experience of the individual practitioner on the other hand. In every case the service, wholly apart from considerations of gratitude or other emotional factor, should be adequately compensated. The situation is in no wise changed if the exigencies of the case demand the reference or the transfer of the patient to a second physician or the calling of such a physician in consultation, with a view to clearing up an obscure diagnosis or formulating the prognosis or obtaining aid and suggestion in treatment, medical, surgical or otherwise. In each instance the physician gives his best skill and judgment in the interest and for the welfare of the patient, and the latter in turn should be ready and willing to compensate adequately each and all of those on whose service he makes demand.

From the foregoing considerations it does not seem that there can be any fair or honorable division of the physician's fee. For one physician to make such division with another or to pay a commission, would mean the alternative of surrendering a part of the compensation to which the first physician is fully and deservedly entitled for the service rendered by him or the making of an excessive charge against the patient and out of which the second physician receives his remuneration. Such a course would be compromising to both parties to the transaction and it could result only in the demoralization of both donor and recipient and the eventual commercialization of medicine. The physician who expects a commission or a division of the fee will be tempted to select that consultant or operator or specialist who yields the largest pecuniary return, and who for this reason may charge the largest fee, or at times to advise consultation or operation when it is not actually demanded by the requirements of the case, while such a keen rivalry might develop among physicians who divide fees or pay commissions that one outbids the other in the desire to secure new business and more fees. Out of this situation no advantage could redound to the benefit of the patient.

What has been said with respect to the relations among physicians applies equally to druggists, instrument-makers and other tradesmen. The payment and acceptance of commissions for articles purchased by patients merely puts an added burden on the latter, entirely without their knowledge and consent.

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* Read before the American Academy of Medicine, June 7, 1909.

Society Proceedings

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-third Annual Meeting, held at Madison, June 30-July 2, 1909

The President, Dr. Gilbert E. Seaman, Milwaukee, in the Chair

Proceedings of the House of Delegates

The officers elected were given in The Journal, July 17, page 215. Milwaukee was selected as the meeting place for 1910.

A vote of thanks and appreciation was extended to Dr. E. L. Boothby, of Hammond, for his past work in behalf of the society.

Dr. O. T. Hougen of Grand Rapids was elected councilor for the Ninth District and Dr. R. U. Cairs of River Falls councilor for the Tenth District. The resignation of Dr. C. J. Coombs of Oshkosh, Sixth District, was accepted, and Dr. H. W. Abraham of Appleton was elected to succeed him.

The date of the ending of the fiscal year of the association was changed to April 15.

The president was instructed to appoint three delegates to represent the society at the United States Pharmacopeial Convention of 1910.

The consideration of the resolution passed by the American Medical Association recommending that advertisements of medical preparations be limited to those approved by the Council on Pharmacy and Chemistry was postponed.

The president was authorized to appoint a "Committee on History of Medicine in Wisconsin," to collect data on the early history of physicians and medicine in Wisconsin. He appointed Dr. W. S. Miller of the University of Wisconsin, and Dr. G. P. Barth of Milwaukee.

PROPOSED PURCHASE OF WISCONSIN MEDICAL JOURNAL

Dr. C. R. Bardeen, chairman of the committee appointed to consider the offer of the Wisconsin Medical Journal Company to transfer its entire property to the society, presented the report of the committee as follows:

> WHEREAS, We recognize that the establishment and maintenance of the *Wisconsin Medical Journal* has been of great benefit to the medical profession of the state, and
>
> WHEREAS, The proprietors of the *Journal*, after conducting it for five years, now offer it to the State Medical Society of Wisconsin on what appears to your committee to be unusually generous terms, and
>
> WHEREAS, The present proprietors of the *Journal* are unwilling longer to assume these responsibilities and believe that it would be to the benefit of the state society to own its own journal.
>
> The committee respectfully recommends that a special committee be appointed to consider more at length the feasibility and details of such change of management and to report the same to the council with power to act.

The report was unanimously adopted and the president was instructed to appoint a special committee of five delegates for the purposes named, with power to act.

A motion was unanimously carried that it was the sense of the house that the society should take over the ownership of the *Wisconsin Medical Journal* if in the judgment of the committee such action is deemed feasible. It was also voted that society again contract for the publication of the proceedings on the same terms as last year and for such time as may be necessary to complete the proposed transfer of the ownership of the *Journal*.

REPORT OF DELEGATES TO CONFERENCE ON MEDICAL EDUCATION OF AMERICAN MEDICAL ASSOCIATION

The report of delegates to the Conference on Medical Educa- of the A. M. A. showed that the meeting was well attended. The report showed a marked tendency to lessen the number of medical schools in operation; that the movement for higher entrance requirements is well under way, and that ideal courses were reported by the committee on curriculum designed to encourage uniformity in the hours devoted to the various branches of study in medical schools. The report was unanimously adopted as read.

REPORT OF THE COMMITTEE ON PREVENTION OF TUBERCULOSIS

DR. A. C. HARPER, Madison, presented this report detailing the work done in Wisconsin along the lines of the prevention of tuberculosis. The state organization is endeavoring to organize local associations to act in conjunction with the state association to spread knowledge concerning tuberculosis and its prevention; the report suggests that the state association and state committee on prevention and cure of tuberculosis work together so that no division of labor and no cause for dissention will arise. The report was adopted as presented.

THE REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION

DR. A. J. PATEK, Milwaukee, presented this report. It showed that the following bills were killed: A bill for the licensing of chiropractics; a bill creating a board for the examination and licensing of opticians; a bill to amend the present laws governing the appointment and organization of the state board of medical examiners. The committee also reported the passage of a law providing for the registration and licensing of midwives, the bill being the best law on the subject in force in any state of the Union. The report was unanimously adopted.

REPORT OF DELEGATE TO THE NATIONAL LEGISLATIVE COUNCIL

DR. BYRON M. CAPLES, Waukesha, presented this report, which showed that the matters taken up there embraced uniform state laws on vital statistics; the matter of the revision of the tariff in so far as it affected the medical profession; a discussion of the enforcement of pure food acts; a recommendation that there be a central body to formulate a single law applying to each state in the matter of the regulation of the practice of medicine; that the matter of expert medical testimony was referred to a special committee, to report at the next meeting of the national committee; that a hearing was arranged before the House Committee on Interstate and Foreign Commerce with reference to the Public Health Bill; that the matter was presented by Dr. Reed, who made the suggestion that there be established a bureau of health to deal with matters of public health. The report was unanimously adopted.

Address of Welcome

HON. JOHN A. AYLWARD, Madison, stated that the people of Madison were proud of their own physicians, both because of their high rank in the profession and because of their character as men and citizens; that Madison welcomed the convention because it believed that the men in the medical profession in their own communities were doing grand work; that the doctors and lawyers were doing more work for the state than all other classes and professions together.

Address of Welcome on Behalf of the University of Wisconsin

PRESIDENT C. R. VAN HISE, University of Wisconsin, stated that his appreciation of the work of the State Medical Society of Wisconsin had steadily grown through recent years, as his knowledge had extended of their work in the state. He stated that traditionally the physician of the town was one with the clergyman and the lawyer; that in the past, until comparatively recently, the work of the physician had been regarded mainly as personal, in the cure of disease, but that in the past 25 years, and especially during the past decade, there had been a great transformation; that the physician had realized that his function included not only the cure of disease, but the prevention of infectious and contagious diseases in his community, and prevention of their spread once they had gained a foothold, and that he believed that in the future this would be the most important duty of the physician. It formerly was said, in some cases at least, that the practice of medicine was a mercenary profession; this charge was never true in a general way, the physician who added to his duties of curing the sick the duty of an active interest in the welfare and the health of his community was certainly above any such charge. He spoke of the great responsibility resting on the physician by virtue of his knowledge of the possibilities of eliminating infectious and contagious diseases; that in a democratic community the enforcement of such laws as could be framed to accomplish this result would be impossible, but that by education and carrying out to the people the knowledge which scientific medicine had gained during the past 25 years this could be accomplished. On each physician was imposed the duty of becoming a center of education in reference to sanitation and hygiene and the elimination of infectious and contagious diseases. This duty was being promoted by the State Medical Society.

The University of Wisconsin would cooperate in this work, but owing to the small fund at hand, it could do comparatively little without the help of the medical profession. It was as a force of men realizing their great public responsibility that he especially welcomed the society to the university. The laboratories of the university were open for inspection and examination throughout the meeting, and assistance was glady offered.

The response to the addresses of welcome was fittingly made by President G. E. Seaman.

President's Address: Medicine in Wisconsin

DR. G. E. SEAMAN, Milwaukee: The State of Wisconsin, through its university, is doing much for medicine, and the establishment five years ago of the State Hygienic Laboratory was a long step in advance toward the more effective study of preventable diseases. There is the greatest necessity for the wide dissemination of the plain facts of preventive medicine and there should be no mystery in medical science.

Preventive medicine is to-day the strongest current in medical progress. The medical department of the University of Wisconsin should seriously consider the development of a school of public health and sanitary science to fit men for public health positions. No such school is now in existence in this country, although two universities have made a start in this direction; and many foreign countries have made great progress along these lines. The recent reorganization of the State Medical Society of Wisconsin has been distinctly beneficial, there being distinct gains in membership and in quality of work, but it would be well to eliminate the district society and devote our energy to the upbuilding of the county society, and county secretaries should be *ex officio* members of the House of Delegates. The establishment of a committee on medical defense has proved an excellent thing.

Eddyism, Dowieism, the new thought, the Emmanuel movement and the holy jumpers owing their temporary success to the worship of the novel and the mystic and the glamour of strong personality, will not seriously affect rational medicine, founded as it is on the solid rock of scientific experimentation and demonstration. But psychotherapy and every other variety of therapy is the particular property of the skilled medical man, and physicians should make use of the potent influence of suggestion when indicated in their daily practice. There is no occasion for quarrel with any pseudo-religio-medical cult or the worshippers of mawkish sentimentality as exhibited by the antivivisectionists and their kind, for the achievements of rational medicine stand to-day as an imperishable monument to the genius and devotion of her followers.

(To be continued)

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-fifth Annual Meeting, held in New York, May 27-29, 1909

(Continued from page 228)

Type and Distribution of Sensory Disturbances Following Cerebral Lesions

Dr. Carl D. Camp, Ann Arbor, Mich.: Dissociation of sensation frequently follows cerebral lesions. The type of dissociation is not constant, but probably depends on the location of the lesion. The disturbances of sensation are usually confined to one side of the body, but some cases apparently show that there is rerepresentation in the cerebral cortex of the sensory distribution of spinal segments. A case which I have observed showed marked dissociation of sensation and strongly suggested spinal segmental sensory representation in the brain.

Inversion and Interlacing of the Color Fields an Early Symptom of Brain Tumor

Dr. Harvey Cushing: This report is a preliminary one and is based on observations made in conjunction with Dr. James Bordley, Jr. The history of most brain tumors extends over a period of years rather than months. It is perhaps not surprising to find that almost every patient brought for operation after the diagnosis of brain tumor has been finally certified by the often long-delayed ophthalmoscopic changes, has at an early stage of the trouble been regarded as hysterical or the subject of some psychoneurosis. Following Charcot, an impression still holds sway that more or less contraction of the field for form with partial or complete color reversal (dyschromatopsia) is the great "essential sign of hysteria." These alterations of the visual fields are no less characteristic of brain tumors. We have found no definite relationship between the contraction of the field for form and that of the color field. Some patients have shown the typical hysterical concentric contraction with color reversal, but in many of them there has been a prompt return to the normal relations after a simple decompression. Others have shown peripheral limitations greater in fields for form than in color fields, the red being less affected than the blue. There have been other cases in which contraction for colors and form go hand in hand, though the blue is usually much more affected than the red field. The prominent feature of most of our charts is not so much the preservation of the red field as the alteration of the blue. In several instances there has been a total achromatopsia and a more or less definite hemiachromatopsia for blue alone. The changes in the color fields often foretell alterations that are to take place subsequently in the fields for form. Thus in a few instances quadrantal defects in the color fields have been followed by corresponding form changes; in others hemiachromatopsia has been followed later by complete homonymous hemianopsia. The process seems to be one related in some way to increased intracranial tension, the relief of which usually causes an early subsidence of the dyschromatopsia. These visual disturbances do not seem to be dependent upon neuroretinal edema, since in a number of patients they preceded any appreciable ophthalmoscopic changes.

DISCUSSION

Dr. M. Allen Starr, New York: Has the interlacing of the color fields been observed in ordinary choked disk following *nephritis*?

Dr. C. K. Mills, Philadelphia: For many years I have noticed the occurrence of changes in the visual field similar to those to which Dr. Cushing has called attention in cases of brain tumor, and not only in cases of brain tumor, but in a few cases of other organic lesion. In 1898 Dr. Keen operated on a parietal tumor, the report of which was presented to the American Neurological Association in the same year or the year following, in which I contended for the existence of a brain tumor in the parietal lobe, but some of the consultants believed that the case was hysterical, one of the reasons for this belief being the observation of the ophthalmologist, Dr. Risley, that the reversals in the field and the contractions in the visual field were similar to those observed in hysteria, and a note of this fact was made in the report which was published years ago. In other cases this has been observed. Dr. de Schweinitz on two or three occasions presented papers on hysteria in which the matter was referred to Dr. Cushing indicates his belief that these changes should be ranked as among the general symptoms of brain tumor. I note that most of the cases were of growths in a region where one would naturally expect them to be, so that we might regard the symptom as in part at least a focal symptom. It is a matter of some importance whether the symptom is to be regarded as a focal or as a general symptom. Tumors and other lesions situated in the parieto-occipital and temporal regions are very likely, in my experience, to produce conditions similar to those to which Dr. Cushing has called attention, although I have never gone into the subject so fully as has Dr. Cushing.

Dr. B. Sachs, New York: In the five or six weeks since Dr. Cushing has called my attention to his work in color fields I have had five cases of intracranial tumor in which it was put to a careful test. The eye examinations were made by ophthalmologists who had not been told of my desire to test Dr. Cushing's work, but in every case what Dr. Cushing claimed was found. In two cases the tumor was found at operation. This work of Cushing's will in all probability have to be taken as one of the general symptoms of brain tumor and not a symptom which must necessarily have to do with the visual tract. The importance of this symptom can not be overestimated, and, as it appears long before other symptoms, we should be doubly grateful for this contribution.

Dr. George L. Walton, Boston: The importance of this communication can hardly be overestimated as offering practical aid in the diagnosis of organic from so-called functional cases. I have not studied the reversal and interlacing of fields in brain tumor, but I have seen long-standing hemianopsia with achromatopsia with the field for form preserved in a case of tumor of the pituitary body. The visual symptoms long preceded those suggesting tumor and appeared many years before changes discoverable by the ophthalmoscope. They had been mistaken for an unusual form of ocular disturbance accompanying migraine, for the patient had been subject to recurring one-sided headaches for a long term of years.

Dr. James J. Putnam, Boston: The peculiar distribution of disturbances in cerebral lesions may in reality be due not to the anatomic lesion but to an attempt of the organism to reestablish equilibrium which has been disturbed by lowering of function due to the lesion.

Dr. Morton Prince, Boston: Did the amblyopia which existed in one of the cases appear before the optic neuritis developed?

Dr. Harvey Cushing: There was a very high grade of choked disk.

Dr. Morton Prince: Was the amblyopia always accompanied by choked disk?

Dr. Harvey Cushing: I have had only case of amblyopia, therefore, I can not generalize on it.

Dr. J. K. Mitchell, Philadelphia: In the course of examination of a great many cases, most of which were apparently hysterical, I found in at least two or three patients with spinal injury which had resulted from very small trauma, reversal and retraction of the color fields. None of them were patients who could have been said at the time to have hysteria, and the discovery was made accidentally. There were some cases of locomotor ataxia in which it appeared.

Dr. G. E. De Schweinitz, Philadelphia: It is suggestive in every way. It is a well-known fact that concentric contraction of color field and color lines occurs in a number of conditions other than hysteria. In Charcot's clinic the same condition of affairs occurs in lesions of the internal capsule and in brain tumor of which a number of examples have been quoted, and it is a well-known symptom in certain toxemias, especially those the result of alcohol, of lead, probably of tobacco, and is most remarkably noticeable in cases of poisoning by dimethyl-benzoate. In those cases the color field exactly represents the hysterical color fields in Monod's book. This seems interesting because it seems to confirm that in many of these cases there must be great alteration in the intracranial pressure, particularly in the lead and alcohol. Another interesting fact brought out is in reference to the blue-blindness which Dr. Cushing has observed in many of these cases. That is, of course, a thing which might and does take place under various retinal conditions. This confirms Cushing's views in regard to the production of albuminuric retinitis which he has relieved by the decompression operation. The inversion of the color fields is due to intracranial pressure under such circumstances. It is a mistake to think that hysteria alone is capable of producing this peculiar condition when we know that it can be produced by the conditions recited.

Dr. Harvey Cushing: I wish first of all to give credit where it is due. Dr. Bordley discovered this constancy of color inversion, or interlacing of the color fields, in brain tumors. Dr. de Schweinitz has answered Dr. Starr's question. My view is that this condition is in some way associated with tension. Perhaps the albuminuric retinitis is partially due to cerebral edema, and one would expect to find these same changes in association with so-called albuminuric retinitis. We have not had a sufficient number of cases to speak dogmatically about it. I am sorry that I was not aware that Dr. Mills had worked this point out, as it would have saved a great deal of work. I am interested in what Dr. Mills has said as to whether this should be regarded as a général or a focal symptom and believe he has said just what we would all say about it, that is, that it appears to be a general symptom, but in certain cases there are focal signs which are suggestive of the nature of the lesion.

Distinction Between the Psychoneuroses Not Always Necessary

Dr. G. L. Walton, Boston: Much confusion exists regarding the classification of cases presenting nervous symptoms without known organic basis. In well-marked cases, there is little difficulty. Such symptoms as aphonia and anesthesia indicate hysteria; flight of ideas and pressure of activity, alternating with retardation of thought and profound depression are easily recognized as meaning manic-depressive insanity, and so with all well-marked cases. But there is a large class of patients showing symptoms which are common to manic-depressive insanity, hysteria, hypochondria and neurasthenia. Much unnecessary effort is made to place each of these cases under one or the other category. The text-books attempt, without success, to make clear the distinction between mild forms of these disorders. It should suffice to class these mild cases simply under the term psychoneurosis unless definite symptoms develop. Nothing is lost by including under this term most of the cases classed under neurasthenia, a misleading term, since it implies an asthenic condition not always present, whereas psychoneurosis indicates the essential state of all patients now included under neurasthenia.

DISCUSSION

Dr. Morton Prince, Boston: It would be going back forty years in time to accept this classification. What we want to do is to differentiate, to acquire precision of knowledge and not to dump everything together and say that we are dealing with only substantially the same thing.

Dr. Philip Coombs Knapp, Boston: There are many cases in which it is difficult to make a diagnosis. It is difficult sometimes to make a diagnosis between general paralysis and neurasthenia, between tabes and neuritis, between brain tumor and an ordinary epilepsy, but it does not seem that, because the diagnosis is difficult, we should throw up the sponge entirely and say there is no difference at all. There are certain well-defined types of mental and nervous disease; there are many borderland cases, but the more exact and the more thorough our study the better we can differentiate between them and the better our treatment can be.

Dr. Adolf Meyer, New York City: We know that there is more than one group of facts to be interpreted in almost every case that we have to handle. The error arises from the habit of trying to classify our cases as patients. If we then in the actual performance of grouping our cases throw an individual into one group, although he has something else in another group, we simply falsify our conceptions and do injustice to the actual work that we are doing.

Dr. J. J. Putnam, Boston: The diagnosis of psychoneuroses has been used a good deal more in the Massachusetts General Hospital than in other clinics. My tendency of late years has been to endeavor to differentiate a great deal more between the different cases than formerly. I have used the term psychoneurosis simply as a convenient heading in hospital classification, realizing that if I took up these cases again to study them I would analyze them a great deal further. We should recognize that we have to deal with patients, not cases, and with sick people who are sick at the same time in various ways.

Dr. C. B. Burr, Flint, Mich.: If you had the patient alone to deal with it might do to act on Dr. Walton's suggestion, but, unfortunately, you have his friends to deal with. A patient comes from another doctor, a friend. After a consultation you say the patient has a psychoneurosis. Presently you are going to hear from the patient's friends, "Why, Dr. ——— said she had hysteria." You try to compromise; you tell them you are in accord with the former physician and endeavor to explain, and by and by you mix the ball up and what you have to say will fall flat. It is better to arrive at a conclusion, even if you differ from everybody else, than to come to none at all.

Dr. J. W. Putnam, Buffalo, N. Y.: It has always seemed to me that the great desire to find what kind of disease the patient has may be carried to an extreme, and the tendency should also be to find out what kind of a patient is controlled by the disease. The same symptoms occurring in one individual lead to much more serious disaster than the same group of symptoms occurring in another patient.

Dr. G. L. Walton: My plan is not for merging such diseases as brain tumor and neurasthenia but rather to reserve for such really important questions one effort at classification. My position is not like that of collecting the diseases of the various viscera under one head but rather analogous to a protest against subclassifying those cases of heart disease without organic basis, whose symptoms are common to all, such as palpitation, anxiety, etc.

(To be continued)

MASSACHUSETTS MEDICAL SOCIETY

One Hundred and Twentieth Annual Meeting, held at Boston, June 15-16, 1909

(Concluded from page 226)

Discussion on Gastric Surgery

Dr. John C. Munro, Boston: Judging from my experience, alcohol has nothing to do with the frequency of duodenal ulcer. Some ulcers heal themselves, but it is not wise to depend on medical treatment, as this is distinctly a surgical disease. It is difficult to differentiate a duodenal from a gastric ulcer, as their situations are so near each other. One form may be present and yet be hidden by symptoms of the other. A duodenal ulcer may creep up to the pylorus, and it is this form which often becomes carcinomatous. Pain is a most valuable symptom and has no special relation to the ingestion of food. Pain at 11 and 4 o'clock and at midnight and relieved by food is a useful symptom. We can not make a diagnosis of location of ulcer by symptoms, but surgery must be called into play for final diagnosis. There is no objection to operating on chronic ulcer. Complications are so rare that they may be disregarded. Speaking of areas of hyperalgesia in the diagnosis of abdominal diseases, I shall use the method for trial in some future cases. For gastric dilatation the treatment is stomach washing. The Mayos advise their internes to substitute the stomach tube for the stethoscope for a neck instrument. Dr. Maury's work on duodenal secretions I consider valuable data in these stomach and duodenal cases.

Dr. Farrar Cobb, Boston: Acute inflammation of the kidney resembles at times appendicitis or cholecystitis, and often can be diagnosed by operation only. Ruptured tubal pregnancy symptoms are not classical in my experience, and often simulate appendicitis, gallstones or perforation.

Dr. Joshua C. Hubbard, Boston: In dilatation of the stomach we have a derangement of the nerves of the stomach. The real condition is a motor insufficiency of the stomach, and we should recognize it. The treatment may be preventive and corrective. It is evident that the preparation of the patient is of little moment in this lesion, since it is not seen in emergency surgery. It is no hardship on a patient to pass a stomach tube, when necessary. It may be done with the patient reclining and if any severe symptoms exist previously the patient feels repaid for the effort by the relief obtained. Shock is not caused by this procedure. The prognosis of dilatation of the stomach untreated is bad, but treated promptly recoveries are usually 100 per cent. Diagnosis is not difficult. I think that in general the use of the stomach tube is valuable in the after-treatment of surgical affections. All food should be stopped in suspicious cases and the tube used early and often.

Dr. Robert B. Greenough, Boston: I consider the constant overflowing of the stomach an important symptom of dilated stomach following surgical procedures. It can and does follow the application of a plaster packet.

Dr. Elliott P. Joslin, Boston: I have seen two cases following applications of plaster jackets, and they were successfully treated by the tube. Usually any food given following an operation is liquid, and it returns through the tube. In the coma of diabetes one should not give too much water with the alkali by mouth, as it tends to cause acute dilatation. It is wiser to give it by rectum. In "stepping up" the food, following laparotomy, it is wiser to give, following liquids, a more concentrated liquid than to give more of the liquid. This may be classed as prophylactic treatment. In the diagnosis of duodenal ulcer we can not rely on one symptom. I fear we are behind the times in this particular.

Dr. Franklin W. White, Boston: I found in a series of ulcers that two-thirds were gastric and one-third duodenal, and think it very difficult to differentiate the location of the two kinds.

The Shattuck Lecture: The Widening Sphere of Medicine

Dr. Edward W. Taylor, Boston: Medical practice was narrow a few years ago, but now it is broad. It is now preventative. There is less of the individual physician and more of the medical profession as a body. The work of the medical school is now more to aid the physicians as a whole than singly. This has reached a point when we ask ourselves whether the country towns are receiving proper physician's attendance. No one influence has been more prominent than the development of the specialties. It is said that specialties narrow. But still it is a platitude that all advances now must come through advances in special lines. Yet there is no antagonism between general practitioners and specialists. The former depend on the work of the latter. In reality, the pursuit of specialism is broadening due to the necessity of a knowledge of so many related subjects. We never may return to old superficial methods. In the world of men the physician is no longer placed on a pedestal, all his treatment is scrutinized. The definite benefit of modern medicine is its freedom from mysticism. People wish reasons for occurrences. Exactness is necessary, and the public has increasing interest in medical affairs. The public lectures on medical subjects held in Philadelphia and Boston should be continued. The public should know that we can not at present prevent pneumonia but can prevent tuberculosis. As an evidence of the interest in medical affairs by the public I would mention the widespread circulation of a recent work, "Why Worry," by a Boston neurologist. We must have the cooperation of the public in this preventative propaganda, and we need endowment. The social service is a prominent example of the widening sphere of medicine. The subject of hygiene and preventive medicine had few adherents in the past, but the number is increasing. It has been said that medicine requires a certain kind of mental makeup. It is plain that the attitude of the student is much influenced by that of the teacher. There are not enough students to supply the demand at present, and it is due to lack of attractive features in the practice of medicine. How may things be readjusted? Not by lowering the standard. The principle is to raise the standard, but we must also broaden it. I believe we should not refuse to admit men who are capable and yet who have not followed a certain prescribed course. An elective system modified to suit all conditions must be possible, if we are to act correctly. The great need of the future is recognition of the many diverse paths which may be followed in medicine.

The Diagnosis, Prevalence and Prevention of Rabies

Dr. Langdon Frothingham, Boston: Three methods of diagnosis are commonly used, inoculation of animals, isolation of the Negri bodies in the brain of the animal suspected, and the lesions in the ganglia. The Negri bodies vary in size considerably but with proper staining are very satisfactory. The technic is so perfected that in less than two hours a positive diagnosis is possible. The period of incubation has wide variation, and in some recorded cases varied from seven to ninety-one days. I strongly advise general muzzling and quarantine. Rabies would be immediately stamped out by these means.

DISCUSSION

Dr. Chas. H. Withington, Boston: The death rate of all cases untreated is 16 per cent. of those bitten. In Paris, with Pasteur treatment, a report of but 1 per cent. mortality is recorded. The last few days of life in a case is an example of terrible agony. In one case ether was used but had no effect on the convulsions. The mortality, when the disease is fully developed, is 100 per cent.

The Blood in Surgery

Dr. James G. Mumford, Boston: There are three methods of investigation of the blood. First, in the laboratory; second, the technical method which carries findings to bedside, and, third, the literary investigation, which adds its quota. The idea of transfusion is as old as the science of medicine, but we have perfected it. It is known that the blood does not tolerate large quantities of normal saline solution. Other solutions have been tried, as glycerin solution, milk, etc., but since 1890 saline infusion has been the usual procedure. One value of infusion is the flushing out of small capillaries. It has been asserted that the bulk only is necessary and that real blood is not necessary. But of late we have had evidence that flooding the system with salt solution is injurious. Attention to detail is the *sine qua non* in this transfusion work. It has now come to the position when transfusion may be stated to be a real therapeutic measure. Hemolysis is one of the severest dangers.

Medicine in Massachusetts

Hon. Elmer A. Chapin, Treasurer of Massachusetts, congratulated the physicians on their efforts toward stopping pernicious legislation, and stated that it had been singularly successful during the past session of the legislature. Massachusetts stands at the head in sanitary and health laws. The educated physician can do much to make life easier for the people, and no one set of people can do more to injure the citizens than uneducated (?) physicians, *i. e.*, quacks. Of the total expenditures of Massachusetts last year, namely, $12,000,000, there were $3,000,000 spent for its unfortunates. A great step in advance has now been made in the appropriation of $600,000 for an observation hospital for the Insane Department in the Boston district.

Other Papers Read

The following papers were also read: "Relation of the Pathological Processes to the Clinical Symptoms in Arthritis Deformans," by Dr. E. H. Nichols, Boston; "Serodiagnosis of Syphilis," by Dr. F. P. Gay, Boston; "The Intravenous Use of Strophanthin in Broken Cardiac Compensation," by Dr. A. K. Stone, Boston; "Laboratory Work by the County Physician," by Dr. M. A. Cummings, Winchester; "A Practical Diet Chart," by Dr. H. D. Arnold, Boston; "Report of Work Accomplished in Massachusetts During the Past Year," by Dr. A. T. Cabot, Boston; "Report of Committee to Suggest Suitable Employment for Individuals with Cured Tuberculosis," by Dr. Alfred Worcester, Waltham; "Tuberculosis Problem for Small Cities and Towns," by Dr. Carl A. Allen, Holyoke; "Frequently Neglected points in the Diagnosis of Tuberculosis," by Dr. C. Floyd, Brookline

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AMERICAN SURGICAL ASSOCIATION

Annual Meeting held at Philadelphia, June 3-5, 1909

(Continued from page 141)

SYMPOSIUM ON THORACIC SURGERY

Thoracic Surgery

PROFESSOR FRIEDRICH, Marburg, Germany, reported eleven cases of unilateral phthisis in which he had resorted to extensive multiple resection of ribs. In two cases of multiple tuberculosis he performed total pleuropneumolysis, and in four partial pleuropneumolysis. He has not lost a single case from this operation.

DR. WILLIAM S. HALSTED, Baltimore, detailed some experimental studies he had made with reference to lung surgery.

DR. CHARLES A. POWERS, Denver, discussed surgical measures designed to relieve pulmonary tuberculosis.

DR. LEONARD FREEMAN, Denver: Collapse of the lung may be obtained in several ways: (a) By the production of artificial pneumothorax according to the methods of Murphy and others. (b) By extrapleural resection of the ribs below the first part of the cartilages to the spine, including the periosteum. (c) By removal of portions of some ribs, with periosteum along the axillary line. (d) By resections of portions of several ribs, and periosteum directly over the diseased part of the lung, usually a cavity near the apex. (e) By a similar operation, without removal of the periosteum, followed by external pressure by means of a truss. He described an operation which he had done in two cases with encouraging results.

DR. A. VANDER VEER, Albany: The hypodermic syringe, with long needle, is of value for exploratory purposes and a safe instrument for a good general practitioner to use when in doubt as to the nature of the lesion that is present. Repeated use of the aspirator is not to be condemned so long as the fluid remains sterile and is the preferable method of treatment in malignant cases. Where we have some malignancy in which the effusion is distressing to the patient, the use of the aspirator affords great relief. The use of the trocar and drainage tube is advisable if it is shown the aspirator is no longer affording benefit. Resection of the ribs is necessary when no improvement takes place with ordinary drainage tube. The latter operation should be done early in order to protect the lung from unnecessary pressure and relieve adhesions which, in the young, become so detrimental in causing spinal curvature.

DR. C. L. GIBSON, New York, reported an interesting case of tuberculous pericarditis in which he succeeded in effecting a cure by means of incision and drainage.

Treatment of Fistulas and Abscesses Following Operations for Empyema of the Thorax

DR. A. J. OCHSNER, Chicago: This paper illustrates the value of the injection of Beck's paste into persistent sinuses and abscesses following operations for empyema of the thorax. Two formulas are in use. No. 1, consisting of one part of arsenic-free subnitrate of bismuth and two parts of sterile amber vaselin, has a lower melting point than No. 2, which consists of thirty parts of subnitrate of bismuth, sixty parts of amber vaselin, and ten parts of paraffin of a sufficiently high melting point to cause the mixture to maintain its form at the temperature of the body. No. 1 is used daily or every second day until the sinus or abscess is practically free from pus; then No. 2 is used at first every second day, and later less frequently until healing is completed. These mixtures are injected at 110 to 120 F. by means of an ordinary glass syringe. Only just enough force is used to fill the cavity. The outer opening is closed with a gauze plug. The remarkable part of the treatment lies in the fact that cases in which the abscess cavity communicates with a bronchus will heal as rapidly and as perfectly as other cases, and that symptoms of sepsis disappear rapidly and that in most cases in which there is no communication with the bronchi the discharge from the sinus soon becomes sterile.

Visceral Pleurectomy

DR. ALEXANDER HUGH FERGUSON, Chicago: This operation means the removal by operation of the thickened visceral pleura in cases of chronic empyema. In six cases in which I resorted to this operation the results have been all that could be desired. All the patients gained flesh, and all cavities were completely closed. The youngest patient was 23 years of age, the oldest 45. The amount of visceral pleura removed varied from a strip an inch long to four inches wide.

DR. CHARLES H. PECK, New York, reported a case of stab wound of the heart in a colored girl. The wound was sutured successfully, and the patient was well twenty-four days after the operation.

DR. WILLY MEYER, New York, detailed a new method of esophagogastrostomy for intrathoracic resection of the esophagus.

The Parathyroid Question

DR. CHARLES H. MAYO, Rochester, Minn.: For more than fifty years reference has been made by various authors to peculiar gland bodies that were regularly associated or connected with the thyroid bodies. The glands are four in number, usually without the true capsule of the thyroid. They are from 6 to 7 mm. long, from 3 to 4 mm. wide, and 2.5 mm. thick. The pathologic changes are of simple type, i. e., degenerations, hemorrhages, cysts, and seldom tumors. In fact, there are but few tumors of the parathyroid reported, most of these being found at autopsy, and all were benign, mostly adenomas. From such reports it would appear that these glands, as compared with other organs and lesions, are singularly free from serious diseases, especially those of a surgical nature. The association of function of the glands like the thyroid, parathyroid, thymus, suprarenal and others becomes more marked as continued investigation discloses the various changes consequent on disease or removal of the various glands. It is possible that the human being with four parathyroids has some to spare, and that if those on one side are preserved, no untoward consequences will follow. This phenomenon has been noted in other double structures, the kidneys, ovaries, etc. Operations on patients with hyperthyroidism are usually confined to one side, and the blood supply being free, there is but little danger of subsequent hypothyroidism, the greatest danger occurring from operations on both sides and from secondary operations on the remaining side in single goiter. Should tetany follow the removal of the parathyroids, the indications are to administer calcium salts to maintain life until parathyroids can be secured, transplanted and function obtained, as by this means it may be possible to tide the patient over into a chronic state which may later beccome a cure. In nearly 1,200 operations for goiter I have seen no tetany.

Excision of the Larynx for Malignant Disease

DR. JAMES BELL, Montreal, reported 12 laryngectomies. In his experience partial operations on the larynx are not satisfactory. Excision of the larynx is a safe operative procedure.

In 7 of the 12 cases operations were done for intrinsic, far-advanced cancer of the larynx; in 5 for primary disease of the organ. Of the 12 patients operated on, 7 recovered.

DISCUSSION

Dr. W. W. Keen, Philadelphia: In 1908 I selected as the subject of my presidential address "Total Laryngectomy," and in it I reported a case of excision of the larynx. The patient, a man, is now perfectly well, it being 11 years since the operation. I recommended at that time that the patient be kept in the Trendelenburg position to prevent aspiration pneumonia.

Dr. Geo. E. Brewer, New York: The dangers from the operation of excision of the larynx are (1) aspiration pneumonia; (2) extension of the infection downward along the muscular and fascial planes of the neck toward the mediastinum; (3) too long deprivation of food in old people who are in a bad general state. I believe in early feeding. I introduce a nasal tube into the lower part of the esophagus, and begin feeding as soon as the patient comes out of the ether. I begin the use of water in about six hours after operation, and give eggnogs and concentrated food from the start.

Dr. Roswell Park, Buffalo: My first laryngectomy patient was operated on about 24 years ago, and the patient nearly died of iodoform poisoning. I was afraid to use iodoform after that, and in a later case employed subnitrate of bismuth. This patient also died. An autopsy was made, and I found the lining of every bronchial tube smeared with bismuth that had formed a paste, so that the patient died *of asphyxiation from the bismuth.*

Dr. N. B. Carson, St. Louis, Mo., after detailing five cases in which he had resorted to laryngectomy, said that rectal anesthesia adds much to the comfort of these patients.

Dr. George W. Crile, Cleveland, Ohio: I wish to report 20 total laryngectomies. There were 2 immediate fatalities in the first 8, but none in the last 12. The ultimate results are satisfactory. One patient is living between 15 and 16 years after operation; another 5 years after operation; one is alive 4 years after operation; one after 3 years, and the remainder have been operated on too recently to be considererd at this time.

Transfusion, With a Note on Hemolysis

Dr. George W. Crile, Cleveland, Ohio: In pernicious anemia, in toxemia, leukemia, Hodgkin's disease, carcinoma, uremia, etc., no benefit has occurred on observation from transfusion. No patients with hyperthyroidism improved apparently by transfusion. In a case of pellagra rapid convalescence was noted after transfusion from an immune donor. In suitable cases, this procedure is of great value in the prevention and relief of the circulatory phenomena of shock. I am encouraged by the results of transfusion in pulmonary tuberculosis. As influencing operative surgery, further experience amply confirms the earlier observations in grave surgical risks by preliminary and postoperative transfusion. There are two notable groups susceptible of results in contemporaneous transfusion, namely, those in which there has been internal hemorrhage, grave or continuous, demanding operation at the same time, and those in which the patients are reduced by long-continued disease, by starvation or otherwise to such a degree as to render them unsafe for the operation required. In those cases the donor is attached and a sufficient amount of blood is transferred until the recipient is sufficiently restored to take the anesthetic. All preparations having been made, the patient is then anesthetized, and in the course of operation the needed amount of blood may be transferred from time time by the assistant in charge at the direction of the operating surgeon. At the close of the operation a sufficient additional amount of blood is transferred to insure the postoperative safety of the circulation. Hemolysis must be considered, first, as but one form of manifestation of the end-action between the blood of one individual against the blood of another. Second, if there is hemolysis *in vitro* it by no means necessarily follows that there will be hemolysis *in vivo*. Their agreement may be an exception. Hemolysis is a valuable aid in the diagnosis of active tuberculosis reaction, occurring more frequently than in carcinoma. In cancer the reaction is largely dependent on the stage of the disease at the time of observation. Hemolysis usually occurs in the early stages of cancer, and rarely occurs in its late stages.

The Preservation of Dissections of Surgical Anatomy with Permanent Color of Muscles, Vessels, Nerves and Organs, by a New Method

Dr. Edmond Souchon, New Orleans: The details of this ex*perimental work, extending over several years,* were published in The Journal, Aug. 22, 1908, and I wish here to recall only the most salient features of this new method. The basic condition is a proper embalming formula which will assure color. The aim is not so much to obtain the real color of the living, as that color varies in the various subjects, but to secure a marked contrast between the fleshy parts of muscles and the tendons, bones and other white tissues, doing away with the uniform bleached appearance presented by so many otherwise beautiful preparations seen in the museums in this country and abroad.

After a number of trials, consuming over forty subjects, I have found that so far the following formula is the one that gives the best results for this work: Arsenic, 2½ gallons, formalin 6 ounces, alcohol 16 ounces, carbolic acid 6 ounces, glycerin 16 ounces, and creosote 2 ounces. Very lean subjects should be used. A feature of some importance is to allow the parts to be dissected to drain for ten or fifteen days before dissecting them. Otherwise the dissecting is rendered unsatisfactory by the infiltration of the tissues by the embalming fluid. After the dissection is completed, it is placed in a glass jar filled with a solution of carbolic acid, one ounce to the gallon. This is changed as often as it is discolored by the blood. The next important point is the placing of the dissected parts in an empty jar without any solution of any kind, but covered with a lid. I call this stage the curing process. It is second in importance to the embalming solution, as it develops or brings out again the color without darkening the tendons or other white tissues. It also smooths the surfaces, which may be shreddy or ragged, it sharpens the edges of the muscles, thus giving better definition. It fixes the color so as to keep it from being perceptibly affected when the specimen is finally put up permanently in a weak solution of alcohol, 20 ounces to the gallon of water. The arteries and veins must be painted with moist water colors, as the coloring matter used in the injecting material will not show when the preparations are preserved in solutions. All solutions should be changed as soon as they become the least cloudy or discolored. This is essential to the permanent beauty. Otherwise the impurities in the cloudy or discolored solutions will settle on the white tissues, stain them and destroy their whiteness and brilliancy. I estimate that 85 or 90 cer cent. of the specimens turn out satisfactorily. The remainder are merely good, but not good enough to be placed in a museum, specially with one's name to it. That uniformity of color and results does not invariably follow uniformity of procedures is due, I believe, to the fact that the chemical composition of the tissues varies with the subjects. The great practical value of this method is to give us the means of building study museums composed only of real dissections placed in very large glass jars, in spacious rooms flooded with light, on tables, so that students can study them. Thus the students can prepare for the dissecting room. They are assisted in their dissections by referring to the preparations in the museum. Their work in the dissecting room is completed by showing them the great number of things which they never see in a dissecting room. They are also able to review and fix in their minds what they have really dissected themselves. Practitioners can in a few moments relearn much anatomy. Such is the study museum I am now building for the medical department of Tulane University in New Orleans. The museum contains 400 very large glass jars with dissections. I have now 200 good ones and there are 200 to be made over, because they can now be made better owing to the improvements in the method. It will take about two or three years to make over those 200.

(*To be continued*)

Medicolegal

Charitable Institutions Not Liable for Injury to Employés

The St. Louis Court of Appeals says that the case of Whittaker vs. St. Luke's Hospital was brought to recover damages for an injury suffered by the plaintiff while an employé in the hospital, in working with an ironing machine or mangle, which it was alleged was out of order. The sole question presented was whether a charitable institution is liable for its torts (wrongful acts) to an injured employé. After reading numerous decisions on this question, the court concludes that the hospital ought not to be held liable.

Two rules of law, both founded on motives of public policy, came into conflict here: The rule of respondeat superior—the master must answer (or if not technically that, akin to it), and the rule exempting charitable funds from executions for damages on account of the misconduct of trustees and servants. As both rules rest on the same foundation of public policy, the question is whether, on the facts in hand, the public interest will best be subserved by applying the doctrine of respondeat superior to the charity, or the doctrine of immunity; and the court decides this cause for the hospital because in the court's opinion it will be more useful, on the whole, not to allow charitable funds to be diverted to pay damages in such a case, and, moreover, the weight of authority is in favor of this view, as expressed not only in cases where the parties seeking damages were patients in the institution, but where they were not. But the court will go no further than the facts before it required, and does not say instances of negligence of officials and servants could not arise in which it would be proper to make a charitable corporation responsible.

In some instances charitable institutions have been exonerated from liability for the negligence of their officers, trustees and servants, because they were agencies of the government, and in other instances because their funds were donated for use, in ways of charity, by individuals, and to take them to pay damages would be a diversion of the trust. It will be seen, on reading the opinions in cases where the defendants were instrumentalities of the government, that the principle on which they were held not liable was, at bottom, much the same as the principle on which private charitable institutions, in some of the best-considered cases, were exonerated; i. e., that their funds, whether donated by the government or by individuals, were intended to be dispensed for the general good in designated charitable ways. Hence, though some courts incline against holding private charities exempt from liability for damages, and attempt to draw a distinction between them and institutions which are made by law public instrumentalities, it is doubtful if this distinction is sound.

Right of Surgeon as to Protection of Patient in Operating Room

The Supreme Court of Michigan affirms, in the case of People vs. Reycraft, a conviction of a surgeon of assault and battery on another surgeon. They met in the operating room of a hospital, where the defendant surgeon arrived first with a patient who had been injured by the cars, necessitating the amputation of a leg. The other surgeon arrived a few minutes later, having been asked by the railroad company—whose regular surgeon he was—to go to the hospital and take charge of the case. The defendant considered his action intrusive, and he was pushed or thrown down. The verdict indicated that the jury were convinced that the defendant made an unjustifiable attack, or an excessive defense.

The jury were instructed in this case that if they found that the alleged intruding surgeon first made an unjustifiable assault on the defendant, or that the defendant had grounds to believe, and did honestly believe, that he was about to do him personal injury, then the defendant had a right to use such violence as was necessary to protect himself from personal injury, but if he did what was unnecessary, or did more than was necessary in order to defend himself, he became and was guilty of assault and battery. No mere words, no matter how irritating or insulting, would justify an assault and battery.

In regard to the defendant's claim that what he did was lawful as a necessary protection of the injured man, the jury were instructed that if they found it to be a fact that the second surgeon's presence in the operating room and his conduct therein before the assault was dangerous to the injured man, or if the defendant had good reason to believe, and did in good faith believe, such to be the case, he had no right to begin by assaulting the second surgeon; but he had the right to request, and he should have requested him, under such circumstances, to leave the room. Then, if he refused, he should have gently laid his hand on him, and not proceeded with greater force than might have been made necessary by resistance. And, in deciding as to what degree of force he was justified or would be justified in using in overcoming such resistance, the jury must take into consideration all the circumstances of the case, including the physical appearance of the two men, and anything else that would throw light on that, or bring their minds to a just realization of the facts as they existed. If the defendant did not request the other surgeon to leave the room, but assaulted him in the first instance, he did what was not necessary for the protection of the injured man, and was guilty of assault and battery.

The Supreme Court thinks that the defendant had no occasion to find fault with the instructions given.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

July 8

1 The Widening Sphere of Medicine. E. W. Taylor, Boston.
2 The Gospel of Peace. A Vacation in Norway. C. K. Austin, Paris, France.
3 The Pharmacopeia: What it Is, and What it is Not. S. Solis-Cohen, Philadelphia.
4 *Special Heater for Hot-Air Sterilizing. R. Amory, Boston.

4. **Heater for Hot-Air Sterilizing.**—The apparatus designed by Amory for sterilizing instruments, consists of an electric heater which is controlled by a switch, and a copper box or oven, the cover of which is lined with asbestos to check radiation. It is adapted to use the street current of 110 volts ordinarily supplied by electric companies and connects by an extension electric corded wire with any socket for an electric light. The heat is radiated from a drum-shaped piece of solid copper, around and beneath which is the heating coil. On top are four holes, two chisel-shaped and two cone-shaped, designed to char and sterilize the wooden sticks which surgeons use to clean their nails before operating. Below the drum is a shield, and below this is a handle controlling three switches by which different degrees of heat may be obtained. The copper boxes, or ovens, are made in three sizes, with open circle cut in the bottom and circular tube surrounding the drum of the electric heater to allow the heat waves to pass freely into the copper oven. The asbestos lined cover has a place for a thermometer.

Medical Record, New York

July 10

5 Leprosy. L. D. Bulkley, New York.
6 *Diagnosis and Localization of Appendiceal Abscesses. C. C. Rogers, Chicago.
7 *Importance of the Early Recognition of Bone Tuberculosis. A. J. Davidson, Philadelphia.
8 *Peculiar Case of Meningitis in which Treatment by Antimeningococcus Serum was Attempted. J. P. Gardiner, Toledo, Ohio.

6. **Appendical Abscesses.**—Rogers urges that catarrhal appendicitis should be considered a surgical disease. Acute suppurative appendicitis is always surgical and should be operated on without delay. Gangrenous appendicitis is always surgical and should be operated on early before there is a thrombosis of the mesenteric vessels. Tuberculous appendicitis is seldom primary, but is always surgical, and may require extensive resection. Appendicitis obliterans caused by repeated catarrhal attacks resulting in a fibrous obliteration of the appendix including the mesoappendix, causing a neuroma of the appendix and mesoappendix is always surgical. Appendical abscesses are located in the region of the appendix and do not locate in regions distant from the appendix.

7. **Early Recognition of Bone Tuberculosis.**—Davidson believes that radiography is of very great value and should be used in all doubtful cases. The slightest bone erosion can be determined and interpreted by a skillful radiologist and even before erosion, the radiogram will indicate, by the diminished resistance to the passage of the *x*-ray, the greater vascularity of the epiphyses, which always is present at this early stage.

8. **Meningitis Treated by Anti-Meningococcus Serum.**—Gardiner describes a case of cerebrospinal meningitis in which the antimeningococcus serum was used rather late in the disease. After two punctures had been made in the lumbar region it became impossible to withdraw fluid or to introduce the serum. The case terminated fatally, and autopsy showed a very thick exudate damming up the fluid in the ventricles of the brain and causing death by pressure. Intracellular diplococci were found in the fluid removed.

New York Medical Journal

July 10

9 *Ipecac Treatment of Amebic Dysentery. G. Dock, New Orleans.
10 *Agricultural Aspects of the Pellagra Problem in the United States. C. L. Alsberg, Washington, D. C.
11 *Etiology of Pellagra. C. H. Lavinder, Washington, D. C.
12 Prognosis in Eye Diseases Viewed from the Standpoint of the Patient's Rights and the Ophthalmologist's Duty. A. Duane, New York.
13 Ectopic Gestation. J. W. Kennedy, Philadelphia.
14 Relaxation of the Sacroiliac Synchondrosis: Third Paper. .J. Dunlop, Washington, D. C.
15 *The Surgical Appendix. R. F. Ward, New York.
16 *Treatment of Neurasthenia. M. D. Keller, New York.

9, 10, 11. Abstracted in The Journal, May 8, 1909, p. 1537.

15. **Surgical Appendix.**—Ward says that whenever the abdomen is opened for the relief of an inflammatory process in the neighborhood of this organ it should be removed whether it appears to have shared in the inflammatory process or not.

16. **Treatment of Neurasthenia.**—Keller outlines a course of treatment for this class of patients such as can easily be conducted at a clinic or in private practice with little or no expense to the patient. He says that before commencing to treat these patients the physician must rid himself of the impression that neurasthenics suffer from imaginary ills. It is true that they complain of pains far out of proportion to the severity of the illness, but as a matter of fact, these patients are ill—there is something that really pains or irritates them, and on account of their introspective tendency, they exaggerate all these symptoms.

After having completed the history, a physical examination should always be made, although the physician may feel certain that he will derive no further information. The treatment proper may be divided into hygienic, dietetic, and medicinal. The physician should therefore insist that such a patient spend a few hours every pleasant day in the open air. He must walk, as this not only gives him the fresh air, but also the best of exercise. A cold daily bath, on arising, is very beneficial for those who can stand it. But many can not endure this rigid and frigid treatment, and furthermore, many have not the luxury of a private bathtub. In these cases, a cold pack or a cold douche (applied for about one minute at the outset and gradually increasing the duration) followed by vigorous friction, can be substituted with benefit. A towel dipped in cold water, held by the patient over the shoulder and squeezed out, or having this performed by another person, produces all the benefits of a spinal douche. A warm bath before retiring will allay restlessness and benefit insomnia. Almost all neurasthenics are constipated. These patients must be instructed how to form a proper habit so that the bowels will move without medication. They should be advised to go to stool every morning, just after arising. A glass of cold water on an empty stomach aids peristalsis. They should go to stool whether they have any inclination to move their bowels or not and remain ten, fifteen or even twenty minutes until there is a movement.

Diet is an important question with these patients. Tea, coffee and alcoholic drinks must be eliminated, as they tend to increase the nervousness of the patient. Tobacco must be restricted for the same reason. No specific diet can be mentioned, but each individual case must be treated along individual lines. As a general rule, the patients need nourishing foods to build them up. Fried foods should be avoided as they tend to upset the stomach and to cause constipation. Fruits that leave large residues may be allowed on account of their laxative effect. The medicinal treatment consists mainly of sedatives and tonics. The following formula Keller finds very effective in allaying the nervousness, sleeplessness, headache, etc.:

℞.	gm. or c.c.	
Potassium iodidi	33	gr. v
Potassium bromidi,	66	gr. x
Ammonii bromidi, āā........................	26	gr. iv
Sodii bicarbonatis	39	m. vi
Tincturæ *nucis vomicæ*	52	m. viii
Tincturæ gentiani co.....................		ad. ʒii
Aquæ destillat., q. s.........................	8	

When this combination fails it is then advisable to give, in addition, some form of valerian. A pill made of 1 grain each of quinin valerate, zinc valerate, and ammonium valerate will allay nervous symptoms. When the patient's bowels are regular, the nervousness abated, the headache and sleeplessness gone, it is then proper to begin tonic treatment, which must be kept up for eight or ten weeks or longer if necessary. Arsenic in the form of Fowler's solution or in tablets containing arsenous acid probably produces the best results. Strychnin (or nux vomica), quinin and iron may be added, each separately or in combination.

Lancet-Clinic, Cincinnati

July 3

17 Ball's Operation in the Treatment of Pruritus Ani: Report of Case in which Necrosis of the Flap Occurred. L. J. Krouse, Cincinnati, Ohio.
18 Surgical Aspect of Goiter. H. O. Walker, Detroit, Mich.
19 Acute Mastoiditis: History, Symptoms and Surgical Treatment. W. Thrasher, Cincinnati, Ohio.
20 Modern Treatment of Esophageal Stricture. R. H. Johnston, Baltimore.

The Northwestern Lancet, Minneapolis

June 15

21 A Trip Abroad. T. Schott and B. Nauheim. W. A. Jones, Minneapolis.
22 Conservatism in Traumatic Surgery. W. Courtney, Brainerd, Minn.
23 Diverticula o[illegible] rt of Six Cases. H. S. Plummer, [illegible]
24 Appendicitis [illegible] regnancy and the Puerperal State [illegible] Minn.

Kentucky Medical Journal, Bowling Green

June

25 Diphtheritic Cast of Larynx. I. Lederman, Louisville.
26 Prevention of Diphtheria. G. B. Jenkins, Louisville.
27 Diagnosis and Treatment of Diphtheria. C. G. Hoffman, Louisville.
28 Complications and Sequelæ of Diphtheria. F. H. Johanboeke, Louisville.
29 Intubation. L. Kahn, Louisville.
30 An Obstetrical Case. E. Speidel, Louisville.

Woman's Medical Journal, Toledo, O.

June

31 Résumé of the Various Preparations used in Tuberculin Tests. E. S. L'Esperance, New York.
32 Neurasthenia. A. Martine, Utica, N. Y.
33 Rupture of the Uterus. A. Bonner, Brooklyn, N. Y.
34 Teaching of Hygiene in America. H. C. Putnam, Providence, R. I.
35 Treatment of Chronic Intestinal Autointoxication. F. Forchheimer, Cincinnati, Ohio.
36 *The von Pirquet Tuberculin Reaction in 154 Children in an Orphanage. M. Michael, Chicago.

36. **Cutaneous Tuberculin Reaction.**—One hundred and fifty-four children, in an orphanage, ranging in age from 6 to 15 years were tested by Michael for the von Pirquet tuberculin reaction. The reaction varied somewhat in intensity. In some instances the vaccinal lesion was not more than one-eighth of an inch in diameter, of a pale color, and with little swelling; in others it was larger, and bright red, and surrounded by considerable tumefaction. Of the 46 children showing a positive reaction, 3 were 6 years; 4 were 7 years; 6 were 9 years; 6 were 10 years; 5 were 11 years; 4 were 12 years; 8 were 13 years; 7 were 14 years; 3 were 15 years. The family history is of interest. In 53 of the children either one parent had died of tuberculosis or was suffering from the disease at the time the test was made. The reaction was positive in 25 of these 53 cases.

Archives of Pediatrics, New York

June

37 Inspiratory Stridor and Dyspnea in Infants. A. D. Blackade and H. S. Muckleston, Montreal.
38 *Still's Disease. D. Hingston, Montreal.
39 *Diagnostic Value of Lumbar Puncture in Acute Tuberculous Meningitis of Children. F. E. Sondern, New York.
40 Relative Frequency of Abdominal Tuberculosis in Children in Great Britain and in the United States. D. Bovaird, Jr., New York.
41 *Bacterial Content of Whey. O. M. Schloss, New York.
42 Sleep Sweats in Chronic Pharyngeal Stenosis. J. R. Clemens, St. Louis.
43 Diabetes in a Boy of Ten. H. Heiman, New York.
44 Fatal Vomiting (Recurrent Type) in a Child. E. C. Jones, Philadelphia.
45 Tuberculous Adenitis of Bronchial Lymph Glands, Probably Causing Intermittent Atelectasis. R. L. Pitfield, Philadelphia.
46 Acute Dilatation of the Stomach in Infancy. W. P. Lucas, Boston.

38. **Still's Disease.**—Hingston reports two cases of so-called Still's disease, a chronic progressive enlargement of the joints associated with general enlargement of the glands, chiefly the supratrochlear and those of the axilla and neck, and enlargement of the spleen. Fresh air, arsenic, massage and passive movements produced prompt results—slight in one case, marked in the other.

39. Abstracted in THE JOURNAL, Nov. 7, 1908, p. 1627.

41. **Bacterial Content of Whey.**—Schloss' experiments show that in the rennin coagulation of milk many of the bacteria are included in the clot and that the whey contains far fewer bacteria than the corresponding milk.

Colorado Medicine, Denver

June

47 Laryngeal Fissure for Intrinsic Laryngeal Carcinoma. F. L. Dennis, Colorado Springs.
48 Idiopathic Inequality of the Pupils of the Eyes. E. T. Boyd, Leadville.
49 Case of Pemphigus of the Conjunctiva. W. C. Bane, Denver.
50 Congenital Cavernous Telangiectasis. L. A. LaGarde, U. S. Army.
51 The Trained Nurse. E. Stuver, Fort Collins.

Surgery, Gynecology and Obstetrics, Chicago

June

52 Points in Connection with Gastric Surgery. E. S. Bishop, Manchester, Eng.
53 Influence of Corsets and High-heeled Shoes on the Symptoms of Pelvic and Static Disorders. E. Reynolds and R. W. Lovett, Boston.
54 *Prevention of Adhesions in Abdominal Surgery. J. C. Webster, Chicago.
55 Significance of Peritoneal Adhesions Following Operations. H. T. Byford, Chicago.
56 *Local Anesthesia. L. L. McArthur, Chicago.
57 Radical Treatment of Deformity Following an Old Fracture of the Lower Epiphysis of the Tibia. H. O. Feiss, Cleveland, Ohio.
58 Pathologic Relationships of Exophthalmic and Simple Goiter. L. B. Wilson, Rochester, Minn.
59 *Operative Treatment of Hyperthyroidism. C. H. Mayo, Rochester, Minn.
60 *Thyroid Gland and Vascular Surgery. A. Carrell, New York.
61 The Thyroid and Parathyroids. J. P. McKelvy, Pittsburg.
62 *Frequency, Etiology, and Practical Significance of Contractions of the Pelvic Outlet. J. W. Williams, Baltimore.
63 *New Device and Method for Administering Ether. A. H. Miller, Providence, R. I.
64 The Adhesive Corset as a Surgical Dressing. C. F. Weinberger, Chicago.
65 Examining the Gall Bladder through a Vaginal Incision. W. B. Reid, Rome, N. Y.
66 Suppurating Fibroids Following Delivery. E. A. Hall, Vancouver, B. C.
67 Preparatory and After-Treatment of Celiotomy Cases. S. E. Tracy, Philadelphia.

54. **Prevention of Adhesions in Abdominal Surgery.**—Experimentally, adhesions of the peritoneum of dogs may be produced by undue exposure to dry air, cold air, mechanical trauma, and cultures of micro-organisms. Therefore, says Webster, in operating on the human subject, these factors should be avoided. Theoretically, the most suitable atmosphere is one that is very moist and of the temperature of the peritoneum. Practically this is never found, because operating staffs dislike to work under such conditions. An atmosphere charged with moisture at a temperature of 90° F. is perhaps the limit of endurance for prolonged surgical work. Defects in atmospheric conditions may be to a great extent made good by the avoidance of unnecessary exposure of viscera, protection of everything save the immediate area of operation with gauze pads soaked in hot normal saline solution. In order to reduce trauma of the peritoneum to a minimum, sponging should be employed as little as possible and all manipulations should be carried out with great gentleness. The injudicious use of retractors is likewise to be deprecated. Self-retaining instruments are better than those which are constantly being manipulated by an assistant. In removing tissues or separating adhesions, raw areas should not be left exposed when it is possible to bury them under peritoneum.

56. **Local Anesthesia.**—McArthur reviews the present status of local anesthesia and urges that the surgical profession give this subject more attention than it has received at their hands in the hope that observations by many men will eventually lead to a definite and precise knowledge on which practical conclusions may be based.

59. **Operative Treatment of Hyperthyroidism.**—The surgical treatment of hyperthyroidism must embody methods of reducing the secretion of the gland. The reduction of the blood supply in the gland, or a removal of a varying quantity of the gland is at present the accepted method of surgical treatment. In choosing a method to fit the condition in those patients seen in the early stage of the disease, in whom thyroidectomy is not justifiable, the ligation of the superior thyroid arteries and veins on both sides seems to bring about a rapid cure. This method is also free from the possible risks of hypothyroidism from removal of the gland. It is successful in most instances and can be followed later by removal of a portion of the gland, if a recurrence of the symptoms should make it necessary. In about two-thirds of the cases seen by the surgeon, the operation for the removal of the larger lobe and isthmus can be undertaken without undue risk. In at least one-fourth of the cases the condition is so extreme from the continued toxic condition or from acute exacerbation, that the ligation of the vessels, as advocated by Wolfler, is advisable, at least as a preliminary procedure. In a few such cases the results are astonishing. There is a relief from all symptoms and an increase within a few months, and should thyroidectomy be then undertaken it will be done with much less risk than the former procedure of ligation. These operations Mayo designates the graduated operations for hypothyroidism.

Some patients are in such *extremis* that preliminary treatment by heart tonics, diuretics, *x*-ray applications, and absolute rest is necessary before even the resort to ligation of the vessels is advisable. Patients who have developed the symptoms of thyroidism on a previously existing goiter are usually fair risks for thyroidectomy. The condition designated as unilateral exophthalmic goiter is also readily treated by enucleation of the offending encapsulated adenoma. Myxedema or hypothyroidism as a terminal stage of hyperthyroidism may be treated by the removal of the gland to the discredit of surgery, when the gland is already lacking in secretion.

60. **Thyroid Gland and Vascular Surgery.**—The treatment of hypothyroidism and athyroidism by transplantation of the thyroid is regarded by Carrel as being more immediately promising of practical results than any other form of treatment. The feasibility of the operation has been demonstrated. The actual problem is to render it ordinarily successful. Success in transplantation depends on two factors, biologic and surgical. We are still ignorant of the biologic factors of success and failure in transplantation of tissues between animals of the same species. It is certain that, at least in some cases, the gland adapts itself to its new owner, does not undergo any marked histologic changes, and functionates normally. But we do know how frequent are the cases in which the new tissue and its host will have a pernicious influence on each other. The surgical factors can probably be controlled. The operation is very much simpler than the transplantation with anastomoses of the vessels. However, if it is found that it can not be frequently successful, the transplantation of large pieces of thyroid, with union of their vessels to the vessels of the patient must be attempted. In this indirect manner vascular surgery may improve the results of the treatment of hypothyroidism and athyroidism.

62. **Contraction of the Pelvic Outlet.**—Williams claims that funnel-shaped pelves frequently give rise to more or less serious dystocia, are an important factor in the causation of deep perineal tears, and occasionally convert what promise

to be easy low forceps deliveries into most difficult and dangerous operations. Typical funnel pelves, in which the usual external measurements as well as those of the superior strait are normal, while the distance between the ischial tuberosities measures 8 cm., or less, were observed in 6.92 per cent. of 1,200 consecutive pregnant women, and occurred with equal frequency in both the white and black race. Generally contracted funnel pelves, in which shortening of the usual external measurements as well as of the diameters of the superior strait is associated with a distance of 8 cm. or less between the ischial tuberosities, occurred in 1.19 per cent of the white and 4.91 per cent. of the colored women, being 4 times more frequent in the latter. Typical funnel pelvis constituted 55.7 per cent. of all cases of pelvic deformity in white, as compared with 17.8 per cent. in colored women, and therefore are of especial practical importance in the former.

While a shortening of the transverse diameter of the outlet to 8 cm.. or less, indicates the existence of a funnel pelvis, it should be regarded merely as a danger signal; as the possibility of dystocia will depend on the relation between its length and that of the posterior sagittal diameter. The latter is the distance from the center of the former to the tip of the sacrum, and must increase in length as the transverse diameter becomes shortened. Typical funnel pelves are apparently due to the presence of six vertebræ in the sacrum —so-called high assimilation, which so changes the relations at the sacroiliac joints as to permit the lower portions of the innominate bones to approach one another. In the generally contracted type, the outlet contraction probably represents only an exaggeration of the faulty development which characterizes the entire pelvis.

In view of the frequent occurrences of funnel pelves. palpation of the pubic arch should form an integral part of the examination of every pregnant woman. Whenever it appears to be narrowed the distance between the tubera ischii should be measured, and when it is 8 cm., or less, the length of the anterior and posterior sagittal diameters should also be determined. Only by so doing can one avoid being occasionally placed in the unenviable predicament of being obliged to resort to a serious obstetric operation after having assured the patient that her pelvis was normal. Fortunately, the great majority of labors complicated by funnel pelves end spontaneously. In the lesser degrees of contraction low forceps may give satisfactory results, while in the more pronounced cases the operation of choice is Cesarean section at the end of pregnancy, or pubiotomy after the head has reached the pelvic floor.

63. **New Device for Administering Ether.**—Miller describes his method of administering ether as he has employed it with entire success in over 6,000 cases. The apparatus is very simple. It consists of: 1, an open cone; 2, a ring of sheet aluminum; 3. a handkerchief and diaphragm of gauze. The cone is made from three sheets of newspapers, folded to form a flat strip six inches wide. This strip is folded on itself to form a funnel which, when flattened out, has a breadth of six inches. This funnel is covered with a towel. The ring is made from a strip of 28-1000 sheet aluminum, two inches wide and fifteen inches long. This strip is bent to form a ring which is adjustable in size. The ring may be made of brass and silver plated. The handkerchief is a piece of No. 1 surgical gauze, three feet by eighteen inches. The diaphragm is composed of eight layers of the same gauze, four by six inches. To administer ether by this method, which is styled the "handkerchief method," the cone is prepared as follows: Place the diaphragm over one end of the cone. Adjust the aluminum ring to a size a little smaller than the inside of the cone. Place the ring over the diaphragm and push it inside the cone, carrying the diaphragm to the full depth of the ring. Pull the ring open as far as possible, fixing the diaphragm in the cone. At one end of the cone there now is a chamber, its sides formed of the thin sheet of aluminum, its floor formed of eight layers of gauze, and its roof free. The roof of this chamber is the distal end of the cone.

Fit the proximal end of the cone closely to the patient's face. Moisten the gauze handkerchief with a few drams of ether. Beginning with one corner introduce the handkerchief gradually into the chamber. Thus the patient becomes very slowly accustomed to the ether vapor. Pour ether slowly on the gauze handkerchief in the chamber until the patient is completely etherized. Do not remove the cone from the face until the anesthesia is complete. If this procedure is carried out slowly, there is no coughing, choking, or feeling of suffocation. The supply of air necessary for respiration is not interfered with, and the amount of ether vapor inspired is imperceptibly increased. During the operation, ether is added constantly, drop by drop, or is poured on the handkerchief frequently in small quantities, at the distal end of the cone, or through the proximal end, on removing the cone momentarily from the patient's face. The handkerchief is frequently taken from its chamber and shaken out. In this way the evaporating surface is kept free and the amount of ether remaining on the handkerchief is frequently noted.

Alabama Medical Journal, Birmingham

June

68 Etiology of Typhoid Fever. H. Johnston, Birmingham.
69 Cholecystitis as a Complication and Sequel of Typhoid Fever. E. M. Prince. Birmingham.
70 Typhoid Fever—Its Pathology and Treatment. G. Dock, New Orleans.
71 Acute General Miliary Tuberculosis. E. V. Caldwell, Bessemer, Ala.
72 Analysis of Fifty Operative Cases of Appendicitis. W. M. Jordan, Birmingham, Ala.
73 Home Treatment of Tuberculosis. W. C. Gewin, Birmingham, Ala.

Laryngoscope, St. Louis

July

74 *Why a Peripheral Tone Analysis Is Necessary to Explain the Phenomena of Tone Perception. G. E. Shambaugh, Chicago.
75 Transmutation of the Epithelium of the Tonsil into Connective Tissue Cells. J. Wright, New York.
76 Bronchoscopy and Esophagoscopy. E. F. Ingals, Chicago.
77 Id. T. H. Halsted, Syracuse.
78 New Electric Pharyngoscope. H. Hays, New York.
79 Pharyngoscopic Studies. P. Fridenberg, New York.
80 Cerebral and Epidural Abscesses of Otitic Origin. G. T. Ross, Montreal.
81 *Black Hairy Tongue—Hyperkeratosis Linguæ. H. Arrowsmith, Brooklyn.

74. **Phenomena of Tone Perception.**—Shambaugh believes that the telephone theory of central tone analysis is not only untenable, but is entirely lacking in scientific support, and that the theory of peripheral tone analysis in the cochlea is indispensable for the following reasons: 1. The elaboration of structures in the cochlea all point to the conclusion that a peripheral specialization, that is, a peripheral tone analysis, is located here. 2. A comparative physiologic study of special sense organs points toward peripheral specialization of function in all of the special sense organs. This is as true of the ear as it is of the other special organs. 3. The secondary phenomena of tone perception are plausibly accounted for only on the hypothesis of a peripheral tone analysis in the cochlea. 4. The peculiarities in tone perception that occur in connection with pathologic changes in the labyrinth, such as tone islands, or defects in the midst of the tone scale, and the phenomena of diplacusis, as well as the occurrence of peculiar types of tinnitus aurium argue in favor of a peripheral rather than a central tone analysis. 5. The production of circumscribed areas of degeneration in the organ of Corti as the result of exposure to long-continued overstimulation by intense tones of a certain pitch amounts to a practical demonstration of the existence of peripheral analysis.

81. **Black Hairy Tongue.**—Arrowsmith places on record an instance of this rare and curious lesion occurring in his own person. He was led to look at his own tongue by the persistent sensation, which had lasted for several days, of having a tooth-brush bristle, a mustache hair, or some similar substance in contact with its upper surface. This irritation impelled him to scrape it with his upper teeth and expectorate frequently, in the effort to dislodge the supposed foreign material.

There was at no time the slightest pain or tenderness. Two-thirds of the distance from the tip to the circumvalate papillæ, on the left side, was an area, ovoid in form, measuring about three-quarters by one-half an inch, slightly elevated and of a dark brown color. The surface of the tongue was otherwise entirely clean and normal in appearance. On stroking this area with a probe, the papillæ were raised into a sort of crest such as is seen on the fur of a soft-haired animal after immersion. Some of the papillæ were at least three-eighths of an inch in length. A number were cut off, *en masse*, with scissors, and submitted to examination. The microscopist reported that the process corresponded to a hyperkeratosis. In about ten days the trouble entirely disappeared and has since given no indication of any tendency to recur. No treatment was instituted. The personal history was absolutely negative, except so far as tobacco was concerned.

Vermont Medical Monthly, Burlington

June

82 Diagnosis and Treatment of Initial (Specific) Lesions. W. S. Reynolds, New York.
83 Chronic Prostatitis. W. W. Townsend, Rutland.
84 Lesser Known Properties of the Blood. B. H. Stone, Burlington.

Journal of Ophthalmology and Oto-Laryngology, Chicago

June

85 Arteriosclerosis in Relation to Ocular Lesions. W. H. Wilmer, Washington, D. C.
86 Congenital Fibroma of the Cornea—Report of a Case. W. A. Mann, Chicago.
87 Sources of Error in Functional Tests of Hearing. A. H. Andrews, Chicago.

American Medicine, New York

June

88 The Physiologic Action of Diuretics and Their Comparative Value. W. H. Porter, New York.
89 Conditions of Mal-Alignment of the Cervical Vertebræ: Their Ocular Significance. M. E. Bates, Denver.
90 Vaccine Therapy. W. H. Woglom, Brooklyn, N. Y.
91 *The Fetal Circulation. A. G. Pohlman, Bloomington, Ind.
92 Earaches, Their Causes and Treatment. H. Jarecky, New York.
93 Differential Diagnosis Between Gastric Ulcer and Cholelithiasis. H. Weinstein, New York.
94 Vaginal Hysterectomy Followed by Appendicitis: Delayed Operation: Death. H. Crutcher, Roswell, N. M.
95 *The Modern Corset. G. M. Niles, Atlanta, Ga.

91. Fetal Circulation.—Pohlman believes that he has established the correctness of the Galen-Harvey theory of the fetal circulation, that the foramen ovale affords communication between the auricles and that mixed blood passes from the right into the left auricle. The theory of Galen-Harvey states that all the arteries in the fetus contain mixed blood, and is a good working theory for normal as well as abnormal conditions in development. Pohlman sides with Munro of Boston, who has been advocating the possibility of ligating the ductus arteriosus. As an anatomist, he believes that with the recent advances in chest surgery, there is no reason why the operation may not be done successfully, provided, of course, that the failure in closure of the ductus is not due to some primary defect in the lung circulation itself.

95. The Modern Corset.—Niles commends the modern straight front corset, which, when properly fitted, tends to support and keep in place the abdominal organs.

Pennsylvania Medical Journal, Athens

June

96 Evolution of Medicine Since 1848. A. E. Fretz, Sellersville.
97 Treatment of Tuberculosis in Rural Districts. W. H. Brown, Richlandtown.
98 Tuberculous Phthisis; Is Second Recovery Possible? W. F. Dutton, Pittsburg.
99 The Tuberculo[illegible] the Pennsylvania Department of [illegible] Organization and Methods. T. H. [illegible]
100 Factors in the [illegible] f Pulmonary Tuberculosis. W. W[illegible]
101 *Roentgen-Ray [illegible] Joint Disease. J. K. Young, Philadelphia.
102 *Compound Comminuted Fracture of the Tibia. W. H. Lowry, Carbondale.
103 *Fracture of Pelvis with Special Relations to Urethral Injury. A. G. Fell, Wilkes-Barre.
104 *Indicanuria. C. Rea, York, Pa.
105 *New Method for the Quantitative Estimation of Albumin in Urine. E. H. Goodman, Philadelphia.
106 Difficulties in the Diagnosis of Scarlet Fever. J. F. Schamberg, Philadelphia.
107 Treatment of Scarlet Fever. F. L. Van Sickle, Olyphant.
108 Color Photography by the Lumière Process, with Stereopticon Demonstrations of Slides, Showing the Surgical Significance and Advantages. C. B. Longenecker, Philadelphia.
109 *Mechanical Treatment of Visceral Ptosis and a New Method of Applying a Bandage. J. T. Rugh, Philadelphia.
110 *An Ophthalmologic Phase of the Dangers of Consanguineous Marriages. W. C. Posey and A. C. Sautter, Philadelphia.

101, 102, 103, 104. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1542.

105. Published in THE JOURNAL, Dec. 12, 1908, p. 2055.

109. Abstracted in THE JOURNAL, Oct. 10, 1908, p. 1270.

110. Abstracted in THE JOURNAL, Oct. 17, 1908, p. 1356.

New York State Journal of Medicine, New York

June

112 *Blood Transfusion as a Therapeutic Measure. W. F. Campbell, Brooklyn.
113 Certain Phases of Acute Anemia. G. W. Crile, Cleveland, O.
114 *Treatment of Cerebrospinal Meningitis by the Serum of Flexner and Jobling. L. E. Holt, New York.
115 *Congenital Abnormalities of Cervical or Spinal Origin. N. Jacobson, Syracuse.
116 *Scleroderma, with Special Consideration of the Eosinophilia. S. E. Ward and E. Corning, Albany.
117 *Baths and Exercises in the Treatment of Abnormal Tension of the Heart and Blood Vessels. L. F. Bishop, New York.
118 *Scarlatina. H. A. Fairbairn, Brooklyn.
119 *Glandular Fever. W. B. Garlock, Little Falls, N. Y.
120 Ocular Signs of Cardiovascular Disease. A. J. Bedell, Albany.

112, 115, 116, 117. Abstracted in THE JOURNAL, Feb. 20, 1909, pp. 654, 655, 656.

114, 118, 119. Abstracted in THE JOURNAL, Feb. 6, 1909, p. 496.

Ophthalmic Record, Chicago

June

121 Exoph[illegible] nificance and Treatment. O. Wilkins [illegible]
122 Some [illegible] and their Clinical Opportunities—Vienna, London, Utrecht and Paris (concluded). A. P. Horwitz, Chicago.
123 Staphylococcus Vaccination in Phlyctenular Disease. H. Gradle, Chicago.
124 Diagnosis of Syphilitic Eye Lesions by Means of the *Spirochæta pallida* and the Serum Reaction of Wassermann. B. C. Corbus and F. G. Harris, Chicago.
125 Meningococcus Conjunctivitis. S. H. McKee, Montreal.

Maryland Medical Journal, Baltimore

June

126 Prevention of Typhoid Fever. C. W. G. Rohrer, Baltimore.
127 Oribasius Ætius; Alexander of Tralles; Paulus Ægenita. H. M. Cohen, Baltimore.

July

128 Sanitation on the Isthmus. A. K. Bond, Baltimore.
129 Some Phases of Family Psychoses. J. G. Fitzgerald, Boston.
130 Rhazes (925-1045 A. D.). H. M. Cohen, Baltimore.
131 Ideals of Health in Town and Country. C. O'Donovan, Baltimore.

Southern Medical Journal, Nashville, Tenn.

June

132 Diseases of the Colon Due to Extraintestinal Causes: Especially Membranous Colitis. A. B. Cooke, Nashville.
133 *The Basting Suture in Gastroenterostomy. J. W. Long, Greensboro, N. C.
134 [illegible] mb Following Injection for Cure [illegible] DeWitt, Nashville.
135 [illegible] Review. R. C. Bryan, Richmond.
136 Causes of Peritonitis. G. S. Foster, Manchester, N. H.
137 *Abdominal Aneurism Treated by Wiring. M. Willis, Richmond.
138 *Status of Certain Postoperative Procedures Among Fifty Prominent American Surgeons. H. P. Cole, Mobile.

133. Basting Suture in Gastroenterostomy.—It occurred to Long that a basting suture applied around the circumference of the incision in both stomach and jejunum, after the serosa and muscularis were incised, but before trimming away the mucosa, would hold the mucosa snugly against the muscularis, and thus prevent prolapse of the mucosa, thereby facilitating the introduction of the through-and-through sutures. A full curved, round needle, carrying fine chromicized cat gut, is entered very near the margin of the cut serosa, and penetrates all the coats of the bowel, coming out in reverse order. The needle is again entered, this time a short distance behind its point of exit, and again sweeps through all of the coats, basting the mucosa securely against the outer layers. It is to be noted that while the suture shows a loop on both the outer and inner surface, that on the serosa represents an interrupted suture, while every line of the mucosa is embraced in the suture. In this manner the basting suture holds the mucosa in place and prevents most effectually any hemorrhage from the cut edges.

137. Abstracted in THE JOURNAL, Jan. 16, 1909, p. 243.

138. Status of Certain Postoperative Procedures.—Cole summarizes the views of 50 leading American surgeons as to the value of certain postoperative procedures. The popularity of Fowler's position is definitely shown in its employment by 92 per cent. of these 50 surgeons. The use of proctolysis by 99 per cent. shows its universal acceptance as a therapeutic agent in the postoperative treatment of infected pelvic conditions; 92 per cent. of these surgeons use proctolysis in conjunction with Fowler's position. There is undoubtedly a marked variance of opinion as to the employment of stimulative drugs in the treatment of postoperative shock, and a growing tendency to physiologic rather than drug therapy. The fact that 70 per cent. of these surgeons prefer vaginal drainage in infected pelvic cases gives the preponderance of opinion in favor of this procedure in the postoperative treatment of infected pelvic cases.

Detroit Medical Journal

June

139 Value of the Mixed Toxins in Inoperable Sarcoma; Based on a Study of Cases Treated During the Past Sixteen Years. W. B. Coley, New York.
140 Foreign Body Cystitis; Report of Cases. G. E. Potter, Detroit.

California State Journal of Medicine, San Francisco

June

141 Antisepsis and Asepsis in Surgery. W. W. Beckett, Los Angeles.
142 Amebic Dysentery. J. D. Long, U. S. Public Health and Marine-Hospital Service.
143 Latent Tuberculosis: Its Symptoms, Treatment and Prognosis. M. Rothschild, San Francisco.
144 Dosimetric Method of Anesthesia by Inhalation. C. R. Krone, Oakland, Cal.
145 Osteoarthritis. S. J. Hunkin, San Francisco.
146 Adactylia Involving Both Hands and Left Foot with Right Amelus. F. P. Gray, San Francisco.
147 *Differential Diagnosis of Tuberculous Meningitis. G. E. Ebright, San Francisco.
148 *Brain Tumor. C. Bush, San Francisco.
149 Tuberculosis of the Kidneys. W. F. Cheney, San Francisco.
150 Somnambulism Relieved by Hypnotic Suggestion. G. H. Richardson, San Francisco.
151 *Reminiscences of Ten Years as Commissioner of Health in Chicago, and Suggestions for the Future. A. R. Reynolds, Chicago.
152 Backache. C. M. Cooper, San Francisco.

147. **Tuberculous Meningitis.**—The diagnostic points which in Ebright's opinion are too frequently overlooked in the performance of lumbar puncture in tuberculous meningitis are the following: 1. The intraspinal pressure is high in the irritative stages. Its measurement should be made with a mercury manometer, in view of the inaccuracy of other methods. 2. The fluid is usually clear or slightly turbid, and may present a fine filmy coagulum on standing several hours. This coagulum is highly characteristic. 3. The albumin content is high. It may even be 0.7 per cent., and is usually about 0.2 per cent. 4. As in all meningitides, Fehling's reagent is apt not to be reduced. 5. Tubercle bacilli can be found in from 30 to 50 per cent. of the cases and always after death in the spinal fluid. 6. Lymphocytosis is usually present in the fluid, except in the later stages, when polynuclear cells may predominate, possibly on account of a mixed infection, though more likely because that protective function represented by the multiplication of the lymphocytes in tuberculosis and tuberculin reactions has been overcome and lost.

148. **Brain Tumor.**—An interesting case of brain tumor is reported by Bush, occurring in a man aged 24, as the result of an injury. While engaged in pulling a truck, his arms were violently twisted. He immediately noticed a faintness and numbness in the right side of the face, followed by an occasional twitching of that side. The next day on attempting to lift a weight he had another fainting seizure; his face pulled to the right again, and he had some clonic convulsions of the facial muscles. His right arm also curled up, with a flexing of the fingers and wrist and there was a numbness of the arm extending to the shoulder. Since that time the attacks have occurred every eight or ten days, the arm and finally the leg becoming progressively weaker. Some light epileptiform attacks in the leg developed ten days after the injury. There was some difficulty in pronouncing words. There was occasional headache, but no vomiting, before his entry to the hospital. The man walked with a slightly hemiplegic limp on the right side, and the right side of his face seemed to be slightly paretic. The muscular movements of the right arm and leg were also weaker than on the left side, the reflexes were increased, except the right epigastric, which was decreased. The most striking feature at this time was the complete astereognosis, the man being unable to recognize the nature of any body placed in his right hand. At this time there was no atrophy of the muscles of the right side of the body. The main motor disturbance was in the right arm, the muscles of the leg being slightly involved. There was no Babinski reflex and no clonus. Examinations of the chest, abdomen, urine and blood were negative. Even at this time there were slight disturbances in sensation of the right forearm and hand, patient being unable accurately to localize pinpricks, and there being a definite hypalgesia on the dorsum of the right hand. No disturbance of temperature sensations. The symptoms steadily progressed, until two months later his whole right side was almost completely paralyzed, paralysis being of the spastic type. The man could walk only by following the wall about to his right and supporting himself by it. The reflexes were greatly increased, there being a Babinski reflex, ankle and knee clonus, while the epigastric reflex on the right was abolished. The left side of the body remained practically normal. The muscles had begun to waste on the right side. The astereognosis was absolute. The other sensory disturbances were more marked than before. Sweating on the right side was constant, and muscular twitching on the same side developed. At this time examination of the eye grounds disclosed a bilateral optic neuritis, becoming progressively worse from the first examination, a month after admittance, until on the day before operation a choked disc was present. At this time the left pupil was larger than the right, and the extent of the optic neuritis was greater on the left side than on the right. There was difficulty in getting food out of the right cheek. Percussion of the skull gave an apparently higher pitched note on the left side. The question of diagnosis lay between a functional or hysterical condition and an organic lesion involving, to all appearances, the left motor cortex. A few days preceding operation the rapid increase of the choked disc, accompanied by occasional vomiting, and the accentuation of the paralysis pointed strongly to the presence of a real lesion. A decompression operation was done and disclosed a mass under the precentral and postcentral convolutions. Following this the man's condition improved remarkably except the astereognosis, which remained unchanged. Gradually, however, with the increase of the brain hernia, the old symptoms recurred. At a second operation a cyst was found in the region occupied by the mass, was evacuated, and improvement followed. Repeated evacuations were always followed by an improvement in the patient's condition. A slight paralysis and spastic gait are the only evidence of the disease now present.

151. This article appeared in the *Chicago Medical Recorder*, May, 1909, and was abstracted in THE JOURNAL, June 19, 1909, p. 2024.

Journal Arkansas Medical Society, Little Rock

June

153 Duty of Imparting to the Public Knowledge Concerning Preventable Diseases. J. T. Clegg, Siloam Springs, Ark.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 26

1 *Pneumococcus Invasion of the Throat. Sir F. Semon.
2 Acute Pneumococcus Infection of the Pharynx. J. Elliott.
3 *Therapeutic Value of Pneumococcus Vaccine in Pneumonia. A. B. Harris.
4 Radioactivity and Carcinoma. W. S. Lazarus-Barlow.
5 Treatment of Volvulus. R. Mowbray.

1. **Pneumococcus Invasion of Throat.**—Semon adds one case of pneumococcus invasion of the throat to the two cases recorded thus far. The case terminated fatally owing to tuberculosis supervening on the original infection. The patient complained of unpleasant sensations in the throat, which were referred to the region of the lingual tonsil. The lingual tonsil was found to be distinctly swollen, and was treated with applications of a solution of iodin and potassium iodid (Lugol's solution). After a few applications the swelling decreased, and the patient for a few days felt better. He returned, complaining of distinct pain in the left side of his throat. An irregular superficial small ulcer, surrounded by a small area of whitish discoloration, was seen in the lateral wall of the throat, just opposite the last molar, and in its neighborhood a few small irregular spots of white infiltration, but without loss of substance, were visible. The ulcer was not bigger than a split pea. It was cauterized with a weak solution of chromic acid and, as this proved of no avail, with a solution of nitrite

of silver (60 grains to the ounce). For a time these applications afforded relief; usually, however, within a few days after disappearance of the ulcer, it reappeared, sometimes with, sometimes without, a whitish infiltration in its neighborhood. No enlargement of cervical glands was ever present. A scraping from the ulcer showed an almost pure pneumococcus culture. Despite local applications, curettage, and vaccine injections, the patient's condition rapidly became worse. Multiple ulcers made their appearance, together with edema of larynx, pulmonary consolidation, and extreme emaciation. The patient died about seven months after the onset of his trouble.

3. **Pneumococcus Vaccine in Pneumonia.**—Harris says that it may be taken as a clinical fact that in pneumonia death usually takes place through failure of the heart. Particularly obvious is this in the cases of virulent pneumonia, where death occurs about the fourth day of the disease. With regard to treatment of acute pneumonia by inoculation, he concludes that: (1) Successful inoculation for pneumonia is possible; (2) inoculation does no harm; (3) a vaccine from one or a number of virulent strains should be used; (4) it should be introduced as early as possible; (5) the estimation of the opsonic index is not necessary; (6) the observation of the temperature and physical signs is in pneumonia a sufficient guide in gauging the repetition of the dose. Infections of the lung by the pneumococcus which fail to resolve after an acute pneumonia, as well as pneumococcic infections of other areas, ought certainly to be treated with a pneumococcus vaccine; and these cases appear to afford a reasonable prospect of success.

Lancet, London

June 26

6 *Radioactivity and Carcinoma. W. S. Lazarus-Barlow.
7 Gastrointestinal Crises from Effusion into the Intestinal Wall. G. A. Sutherland.
8 Acute Mastoiditis, with Lateral Sinus Suppuration and Cerebellar Abscess as Complications of the Operation for the Removal of Tonsils and Adenoids. L. A. Parry.
9 Oral Sepsis in Connection with Throat Disease. G. I. Stewart.
10 Primary Sarcoma of the Duodenum. H. M. Mackenzie.
11 *Inherited Tachycardia. J. Kirkland.
12 *Effect of Diphtheria Antitoxin on the Tuberculo-Opsonic Index. A. G. Banks.
13 Missed Labor. P. McEwan.
14 Hydroa Gestationis. E. Ward.
15 Difficulties, Direct and Indirect, in Diagnosis, and Remarks on Treatment of Certain Forms of Deafness. R. Lake.
16 Hair-Ball in the Stomach. G. P. Newbolt and R. A. Jones.
17 Wound Diphtheria. R. Herley.
18 Medicolegal Evidence in a Case of Sudden Death. G. E. Wherry.

6. Published also in the *British Medical Journal*, June 26, 1909.

11. **Inherited Tachycardia.**—In Kirkland's report both grand mothers, the father, the mother, the aunt, four out of six daughters, the three sons, and at least one niece were, or are, victims of heart lesions. The trouble did not show itself to any appreciable degree in most of these cases until at least early adult life. The heart beats in Kirkland's case were between 220 and 240; they were difficult to count owing to the irregularity. Dyspnea was most distressing, increased by the cough and any slight exertion, even eating or drinking. The voice was much affected, amounting at times to aphonia. There were great abdominal discomfort and flatulent dyspepsia. The patient had to be propped up in bed, and was most comfortable and easy in this position and the dyspnea was less severe. The attack came on suddenly after a walk that was beyond his strength and lasted twenty-eight hours, passing off as quickly. A hypodermic injection of strychnin, together with a mixture containing apomorphin hydrochlorid (1/16 grain), caffein hydrobromid, etc., seemed to cut the attacks short.

12. **Effect of Diphtheria Antitoxin on Tuberculo-Opsonic Index.**—Banks found that in healthy subjects the effect of diphtheria antitoxin on the tubercle index is small, and it is quite possible that the larger variations are due to some hidden tuberculous lesion. In the majority of cases there is a definite rise in the tuberculo-opsonic power shortly after the injection of antitoxin; and during some few weeks after this a somewhat low index to the tubercle bacillus is the rule. Also, these effects are independent of the quantity of antitoxin administered and probably of the age of the patient.

Medical Press and Circular, London

June 16

19 Treatment of Bronchopneumonia. E. Cautley.
20 Recent Researches on the Function of the Non-Auditory Ear. R. H. Woods.
21 *Nature of Vomiting after Anesthesia, with Suggestions for its Treatment. J. Blumfeld.
22 The State and Other Relationships of Modern Dental Surgery. H. R. F. Brooks.

21. **Treatment of Postanesthetic Vomiting.**—The most rational way to treat and prevent nausea and vomiting after anesthesia, according to Blumfeld, appears to be to promote in every way the elimination of the circulating anesthetic. That is to say, the patient should be kept warm so that the skin may act freely, and renal secretion should be helped. For this purpose saline enemata are of great value, and one should be introduced slowly as soon as the patient is back in bed. In some hands large quantities of saline solution are introduced under the skin slowly and for long periods of time after severe operations, and it is claimed that not only is shock diminished in this way, but after-vomiting is much less frequent. While elimination is thus going on, the less put into the stomach the better. There is no call for anything at all except through thirst, and this gives little trouble if enemata or subcutaneous injections are used. Washing out the mouth with lemon juice and water is pleasant for the patient, and helps to allay feelings of thirst. Preventive treatment with glucose, based on chemical theories explaining delayed chloroform poisoning, has been given a trial at St. George's Hospital; the results do not show any marked alteration of the ordinary percentage of cases of after-sickness.

Clinical Journal, London

June 16

23 Comparison of Cancer of the Lips and Cancer of the Labia. J. Bland-Sutton.
24 Hemiplegia. S. West.
25 *Hemoptysis and its Treatment. J. E. Squire.

25. **Treatment of Hemoptysis.**—Squire presents an admirable synopsis of the treatment of pulmonary hemorrhage. If the smallest amount of blood staining is noticed in the sputum it should be looked on as a danger signal, and the patient ought at once to be put to bed. Calomel gr. ij, iij, or iv, should be given, depending on the patient, followed in the morning by ʒj or more of magnesium sulphate; if necessary, this may be repeated in the day. The patient remains in bed for a couple of days, taking the magnesium sulphate each morning, and if no more staining appears he is allowed to get up, beginning with two or three hours the first day. If the staining continues while the above treatment is given, the amount of milk may be reduced to one pint daily and the patient is, of course, kept in bed till the sputum is clear for at least three days. Acute hemoptysis is treated by propping up the patient in bed. Amyl nitrite, minims 10 to 15, is inhaled. In a slight hemorrhage this is usually sufficient. Smaller amounts than 10 minims do not usually have much effect. In larger hemorrhages, particularly when the nose gets blocked up with blood, it may be necessary to put from 30 to 60 minims on a piece of lint and hold it over the patient's mouth. In some cases, this has been repeated, and the only complaint the patient made was that it produced a feeling of nausea. Turpentine (m. xxx to lx) may be used as an inhalation when amyl nitrite is not at hand, or spirits of turpentine (m. x to xxx) may be given internally and repeated. Morphin has been given with good results in slight cases; its action is probably due to the relief of anxiety from the sedative, with consequent quieter action of the heart. Adrenalin (m. v of a 1 to 1,000 solution) has been injected. It is said to be useful in cavity cases where it is likely that the hemorrhage is due to the erosion of a medium-sized vessel. On the other hand, it is said to be contraindicated when the hemorrhage is from a ruptured vessel, but is useful in congestive hemorrhage. It should be a general rule that when the hemorrhage is large and the cavity is known to be present, the patient should be made to lie on the side on which the cavity is located. Subsequent to acute hemorrhage the patient is kept in bed, if possible, propped up a little. Purgatives are given, beginning with calomel (gr. ij to iv), followed by magnesium sulphate,

one, two or three times daily; the amount and time must depend on the patient's condition. Milk, one pint, must be given in twenty-four hours, and all other fluid cut off as much as possible, and the patient fed on solids. In some cases calcium lactate, gr. xv, has been given thrice daily for three days and then omitted for three days, and so on. Or calcium chlorid (gr. x to xlv) in water or milk, every four or six hours, may be given in a similar manner. These calcium salts increase the coagulability of the blood and thus tend to check hemorrhage. It is not wise to examine the chest too fully nor too frequently during or immediately after an attack of hemoptysis.

Journal of Tropical Medicine and Hygiene, London

June 1

26 Schistosomiasis in Bahia, Brazil. P. de Silva.

Practitioner, London

June

27 Bearings of Pathology on Prevention, Diagnosis, and Surgical Cure of Carcinoma of the Cervix. V. Bonney.
28 Treatment of Simple Fractures. R. P. [illegible]
29 Phthisis: Its Diagnosis and Treatment. [illegible]
30 Hypertrophy of the Prostate, and its [illegible]. H. Collinson.
31 Cerebrospinal Fever. F. E. Larkins.
32 Diseases of Children. J. H. Thursfield.
33 Bacterial Vaccines and Rational [illegible]
34 First Three Weeks of Pregnancy [illegible] cent Investigations on our Kno[illegible] J. Phillips.
35 Points of Medical Interest in New Children's Act. L. A. Parry.
36 *Meat as Source of Infection in Tuberculosis. A. R. Litteljohn.
37 Clinical Aspects of Cases Accompanied by Increased Blood Pressure. H. O. Butler.

36. **Infection in Tuberculosis.**—This subject is discussed at some length by Litteljohn, and he endeavors to show (1) that man can contract tuberculosis from cattle, but that, considering the difficulty experienced in transmitting human tuberculosis to cattle, we may, perhaps, assume that the transmission of bovine tuberculosis to man is also difficult to effect; (2) that infection of man with tuberculosis is not commonly caused by ingesting meat, since it requires the swallowing of large numbers of tubercle bacilli to be effective; (3) that the flesh of tuberculous animals (even in generalized tuberculosis) is rarely infective, except as a result of postmortem contamination; (4) that the ordinary processes of cooking, in the majority of cases, are sufficient to render the contaminated meat non-infective; (5) that during a period, in which the consumption of meat by man has increased in quantity, human tuberculosis has declined (British Royal Commission). Litteljohn believes that we may justly infer, therefore, that, to the community at large, the risk of contracting tuberculosis by eating the meat of tuberculous animals is not so great as is generally believed; but that this risk is greater than it should be, owing to inefficient methods of inspection. This perfect inspection particularly concerns those who buy cheap meat, and eat such commonly infected organs as the lungs, udder and mesenteries.

Australasian Medical Gazette, Sydney

May

38 Prevention of Pelvic Disease in Women. D. Hardie.
39 Treatment of Syphilis, Based on a Year's Work at the London Lock Hospital. J. S. Purdy.
40 Serodiagnosis of Syphilis. Drs. Butler and Flashman.
41 Internal Derangements of the Knee Joint, with Report of Two Cases with Successful Operation. C. E. Todd.
42 Infective Infantile Ileocolitis. H. S. Bush.
43 State Medical Inspection of School Children. J. H. Cumpston.

Glasgow Medical Journal

June

44 State of Education in British and Irish Schools for the Deaf. J. K. Love.
45 *Possible Incipient Addison's Disease. J. S. M'Kendrick.
46 Radium in Dermatology. J. G. Tomkinson.

45. **Incipient Addison's Disease.**—McKendrick reports the case of a woman, aged 37, who complained of cough with expectoration and general weakness. There was a very striking pigmentation of the skin. The color was yellowish brown, and affected chiefly the forehead, neck, hypochondriac and abdominal regions in front, and the infrascapular and lumbar regions behind. The arms were uniformly pigmented from the shoulder to the metacarpophalangeal joints. There was an entire absence of pigment over the clavicular and mammary regions in front, and the suprascapular region behind. Scattered here and there through the pigmented areas are patches varying in size from a lentil to a walnut, of clear pearly skin. The pigmented areas were not raised above the surface, nor were they affected by scraping with the nail or sharp instrument. The thighs and legs were free from pigment. The pigment was more marked over the areolæ and axillary regions. There was evidence of consolidation over the left apex, where there is relative dulness to percussion, diminution of respiratory murmur, some tubularity, and a few dry and moist râles. The lungs were otherwise normal. The symptoms in their order of development were pigmentation of the skin, great weakness accompanied by breathlessness, cough with expectoration, anemia, and lastly, a tendency to diarrhea. The pigmentation commenced almost a year before the asthenia and cardiovascular symptoms, and some little time before her last pregnancy. The question arises whether one is justified, from the symptoms of pigmentation, asthenia, gastroenteritis, tuberculosis and splenic enlargement with normal blood count, in supposing (without postmortem examination) that this patient suffered from Addison's disease. Is it more likely that the primary disease is chronic pulmonary tuberculosis, with splenic enlargement, pigmentation, weakness, etc., as secondary manifestations or accompaniments of this toxic process? Is there leukodermia associated with this peculiar Addisonian pigmentation, and if so, is leukoderma a frequent accompaniment of Addison's disease?

Journal Laryngology, Rhinology and Otology, London

June

47 Experiences in the Direct Examination of the Larynx, Trachea and Esophagus. A. B. Kelly.
48 *Indications for and Results of Operative Treatment of Purulent Otitis Media, Including the Simple and Radical Mastoid Operation. W. C. Phillips.

48. *Abstracted in* The Journal, *Feb. 20, 1909, p. 654.*

Archives de Médecine des Enfants, Paris

May, XII, No. 5, pp. 321-400

49 Buttermilk in Infant Feeding. (De l'alimentation des nourrissons avec le babeurre.) G. Jacobson (Bucharest). Commenced in No. 4.
50 Incessant Crying as Symptom of Inherited Syphilis. (Les cris incessants comme symptome de l'heredosyphilis.) C. Ferreira.
51 *Warmth for the Prematurely Born without an Incubator. (Rechauffement des débiles par un procédé nouveau.) J. Comby.

June, No. 6, pp. 401-480

52 Pathogenesis of Congenital Inspirational Stridor. J. von Bokay.
53 Tuberculous Peritonitis in Infants. E. Weill and M. Péhu.
54 *Roentgen-Ray Treatment of Tuberculous Peritonitis. (Nouvelles recherches cliniques et hématologiques sur la péritonite tuberculeuse traitée par les rayons Roentgen.) G. B. Allaria and G. Rovere.
55 *Prostitution in Minors. (La prostitution chez les filles mineures. Ses causes. Ses remèdes.)* H. Dauchez.

51. **Warmth for the Prematurely Born without an Incubator.**—Comby quotes with approval Dufour's suggestion to wrap the child, all except the head, in oiled silk, to shut off all contact with the external air. This maintains an even temperature and allows the incubator to be dispensed with. Tibone uses the same for wrapping parts affected with sclerema, and has thus treated 19 infants, curing 7, with 4 much improved. The oiled silk prevents chilling, raises the temperature and keeps it even and softens the subcutaneous fat in the sclerema, while the local circulation is stimulated.

54. **Roentgen-Ray Treatment of Tuberculous Peritonitis.**—Allaria and Rovere have had experience with seven cases, and their conclusions are that Roentgen treatment should be restricted to the form with ascites and that it must be suspended at the slightest sign of intoxication or aggravation. Owing to the difficulty of detecting these signs, the method should be regarded as still in the experimental stage. Their experience on the whole was unfavorable.

Revue de Chirurgie, Paris

June, XXIX, No. 6, pp. 1029-1290

56 Tuberculous Elephantiasis. (A propos d'un cas d'elephantiasis tuberculeux de la vulve.) E. Forgue and G. Massabuau.
57 Exostoses of the Calcaneum. P. Reclus and A. Schwartz.
58 Cancer of the Bile Ducts. (Traitement chirurgical du cancer des voies biliares.) G. Cotte.

59 Resection of Intestine with Strangulated Hernia. X. Delore and C. Thevenet.
60 *Reanimation of the Heart. (La réanimation du cœur.) P. Mocquot. Commenced in No. 4.

60. **Reanimation of the Heart.**—Mocquot reviews the various cases on record and adds some hitherto unpublished cases, including some from his own experience, and experimental research. He compares the experimental findings and the clinical results, the mode of action of each method, the causes of failure and the conditions for success. Of all the direct procedures massage has been the most frequently used and has given good results in many instances, especially in chloroform syncope. The best mode of access is through the abdomen. While massage with access through the chest in 21 cases has given 2 complete and 5 partial successes, there have been only failures recorded in the 10 cases of massage with access through the diaphragm, but in the 22 cases of massage in which the heart was manipulated from below the diaphragm, success was complete in 9 cases and partial in 6 others. The diaphragm was too taut in 3 cases; it might be relaxed by raising the pelvis, which has also the advantage of sending the blood into the upper part of the trunk. The heart is often so flabby that it can not be felt through the diaphragm, but after a few compressions it regains its consistency under the subdiaphragmatic massage. Another possible cause for difficulty in massaging the heart is an effusion in the pericardium. He has witnessed a case of this kind in a collapse at the end of an operation; after failure of the ordinary measures Delbet tried to massage the heart, but the diaphragm was so tight that this was impossible. An incision was made through the diaphragm and the pericardium, allowing the escape of a serous fluid; the existence of this complication jeopardizes the success of measures for reanimation. Mocquot asserts that it is not necessary to take hold of the heart to apply effectual massage; it is not only easier, but it is more effectual merely to compress the ventricle against the wall of the thorax by means of the hand introduced flat behind the heart. He reports a case in detail which demonstrates beyond question the utility and ease of this mode of massage which can be done readily through the diaphragm without necessity for incising it. Butruille succeeded in massaging the heart in a new-born infant without any incision, merely working two fingers under the false ribs on the left, thus seizing the heart between the two fingers and the thumb on the precordial region, but this method is applicable only for the new-born. While the massage is being applied, artificial respiration should be kept up to relax the diaphragm. The Silvester method interferes with the massage; the best technic is by direct insufflation with a tube. The rhythm of the compression of the heart should approximate the normal rate, that is, it should be about 60 a minute. The ventricles fill up as the compression is released, but sometimes this occurs so slowly that the rhythm has to be made slower. The massage acts as a mechanical stimulant, favoring the emptying of the heart, and setting up an artificial circulation. It is possible, he declares, that the maneuvers for artificial respiration owe part of their efficacy to their action as a kind of massage on the heart. Mocquot noted that the tint of the skin became pinkish during the compression; in one case there was a strong radial pulsation at each compression of the heart. In the majority of cases of chloroform syncope the heart is almost empty and it is important to supply the heart with more blood; this is one reason why massage from below the diaphragm is more effectual than massage after the chest is open. This creates a pneumothorax and thus puts an end to thoracic aspiration. The greater the pressure at the starting point of the coronary arteries, the better the myocardium will be irrigated; some have even advised compression of the abdominal aorta. The artificial circulation from the rhythmic compression acts both on the heart centers and on the myocardium; Cyon has revived the heart by merely irrigating the nerve centers with oxygenated blood. The causes of the failure of the massage have been pneumothorax, inadequate artificial respiration or blood pressure, organic changes or fibrillar tremulation. He gives the details of the total 53 cases of massage of the heart for chloroform syncope or traumatism of the heart or asphyxia, embolism or diphtheria, including a number of cases reported in America. In conclusion, he reviews the publications on Crile's and Spina's methods; the latter is the injection of serum against the current. In chloroform syncope massage has great chance for success when it is commenced not later than fifteen minutes after the arrest of the heart, and especially when it is not necessary to make a new operative trauma for it; it seems more effectual in tardy toxic syncope than in the initial reflex syncope. Adrenalin is a valuable aid in stimulating the heart to contract; it may be employed alone or associated with massage. Intravascular injections of serum not only raise the blood pressure, but dilute the blood and thus are indicated in all syncopes of toxic nature. In chloroform syncope the Silvester artificial respiration should be commenced at once; in cases of initial "white" syncope, insufflation of the lungs through the laryngeal tube, supplemented by massage of the heart, are the urgent indications. In tardy syncope, if the abdomen is already open, the above measures should be supplemented by intravenous injections of serum and of adrenalin. If the heart is not easily accessible, it is better to follow Crile's technic or Spina's, on condition that some artery not a branch of the carotid or of the left subclavian, is readily accessible and can be injected with Locke's fluid. In asphyxia, it is more difficult to revive the heart action, and, besides the massage and insufflation of the lungs, intravenous injections of serum and adrenalin are required. In a traumatism of the heart intracardiac injections of isotonic serum, combined with massage, seem the most promising method. The work should always be done with system, not haphazard. The article concludes with nearly three pages of titles of articles on this subject.

Revue de Gynécologie, Paris

XIII, No. 2, 179-368. Last indexed May 8, p. 1548

61 External Masculine Pseudohermaphrodism coinciding with Sarcoma of Ovary. P. Begouin.
62 *Retrouterine Hematocele from Rupture of Small Blood Cyst in the Ovary. F. Jayle.
63 *Gastro-Cutaneous Fistulas Consequent on Gastric Ulcer. I. F. Jeannel.

62. **Retrouterine Hematocele from Rupture of Blood Cyst.**—Jayle analyzes 126 works in the literature from which he has collected 14 cases similar to the 3 personal ones reported, in which rupture of a small blood cyst in the ovary resulted in a retrouterine hematocele. In treatment he left the apparently sound ovary in his cases, but he always regretted it later, as it proved pathologic, and a second operation had to be done. Consequently, he concludes that hemorrhagic ovaritis is constantly bilateral, and double oöphorectomy is indicated.

63. **Gastrocutaneous Fistulas Consequent on Gastric Ulcer.**—Jeannel classifies and summarizes 50 cases of fistula consequent on a gastric ulcer, including 2 from his own experience. The youngest patient was 13; the others were over 20. The gastric ulcer had caused symptoms for an interval ranging from fifteen months to thirty years before the fistula developed. In 20 cases there was no escape of pus when the fistula occurred, but in 17 this was noted. It is evident that suppuration is sometimes the cause, but in the majority the fistula is the result of necrosis of the inflamed tissues, destroyed by the gastric juice, and this same factor militates against successful operative closure of the fistula. It generally becomes more and more incontinent, and the patients, with good appetite to the last, die of inanition unless relieved by an operation. A few of the patients were in good health three and five years after the development of the fistula, but these are the rare exceptions, although Wencker's patient lived twenty-seven and Rouilly's eight years.

Presse Médicale, Paris

June 12, XVII, No. 47, pp. 425-432

64 *Early Total Resection of Varicose Veins. (Résection totale précoce des varices essentielles superficielles des membres inférieurs.) P. Alglave.
65 Experimental Typhoid. (Dothiénentérie expérimentale.) J. Milhit and E. Chabrol.

June 16, No. 48, pp. 433-440

66 Oösporoses. (Les actinomycoses, les oosporoses et la tuberculose.) H. Roger.

64. **Early Total Resection of Varicose Veins.**—Alglave gives fifteen illustrations to show the technic and ultimate results in three cases in which he removed the main trunk of the superficial saphenous vein and as much of its branches as pos-

sible. The results have been the complete cure of the condition which had almost totally incapacitated the patients for years. He advises early intervention without waiting for leg ulcers to develop, operating when the patient first begins to find the condition painful and the pain warns of impending severer trouble. Total resection of the vein trunk at this stage is a simple and easy operation, he declares, free from danger, and yielding most excellent results. He carries the incision from the groin to the ankle, outlining a long spindle-shaped island in the center, which is cut out to draw the skin tighter around the leg as it is sutured.

Semaine Médicale, Paris

June 16, XXIX, No. 24, pp. 277-288

67 Symptomatic Importance of Segmented Sensory Disturbances in Brain Lesions. (Valeur sémiologique des troubles de la sensibilité à disposition radiculaire dans les lésions de l'encéphale.) J. Lhermitte.

June 23, No. 25, pp. 289-300

68 *Hemorrhagic Complications of Influenza. (Les hémorrhagies post-grippales.) L. Cheinisse.

68. **Hemorrhages Following Influenza.**—Cheinisse cites eight cases—including three in his own practice—of severe epistaxis or hemorrhage in the stomach or brain at the onset or during the course of influenza or within seven months of it in patients otherwise free from a hemorrhagic tendency before or since. These experiences emphasize the necessity for supervising the condition left after influenza, prescribing tonics and other measures as indicated. All but one of the eight patients were women.

Archiv für Gynaekologie, Berlin

LXXXVIII, No. 2, pp. 217-416. Last indexed May 22, p. 1724

69 Importance for Differential Diagnosis of the Plasma Cells in Suppurative Inflammation in the Uterine Adnexa. J. W. Miller.

70 Technic of Schauta's Operation for Prolapsus Uteri. F. Lichtenstein.

71 Bacteriologic Examination of Genital Secretions During Confinement. (Bakteriolog[illegible] der weiblichen Genitalsecrete während [illegible] d des Wochenbettes, mit besonderer [illegible] Frage von der puerperalen Selbstinfection.) W. Wegelius.

72 The Bladder During Childbirth. (Die Harnblase während der Geburt.) E. Martin.

Correspondenz-Blatt für Schweizer Aerzte, Basle

June 1, XXXIX, No. 11, pp. 361-400

73 *Preparation and After-Care of Surgical Patients. (Vorbereitung und Nachbehandlung bei chirurgischen Operationen.) E. Kummer.

74 Ankylostomiasis. O. Henggeler.

73. **Preparation for and Care After Surgical Operations.**—Kummer reviews his experiences with 315 laparotomies. He devotes special attention to the 108 cases in which there were complications or delay in healing, urging the necessity for improving the present technic of anesthesia and the after-care. He insists on an abdominal bandage to be worn for three months after the laparotomy, especially for people who are constipated or suffer from respiratory catarrhal affections or of whom much physical effort is required.

Deutsches Archiv für klinische Medizin, Leipsic

XCVI, Nos. 3-4, pp. 217-418. Last indexed June 12, p. 1962

75 Case of Lymphadenoma of the Mediastinum with Hypertrophic Osteoarthropathy. F. P. Weber and J. C. G. Ledingham.

76 *Acute Myeloid Leukemia. F. Port.

77 *Pathogenesis of Pernicious Anemia. F. Berger and I. Tsuchiya.

78 *Paroxysmal Hemoglobinuria. E. Meyer and E. Emmerich.

79 *Treatment of Obesity with Exclusive Milk Diet. (Entfettungskuren durch reine Milchdiät.) M. Hedinger.

80 Persistent Absolutely Irregular Heart. (Zur Kenntnis der Arythmia perpetua.) E. Magnus-Alsleben.

81 Case of Kala-Azar from Asiatic Russia. (Fall von Kala-azar aus Taschkent in Wien.) E. Sluka and M. Zarfl. Id. E. Rach and M. Zarfl.

82 Hemolytic Substances in Ether Extract of Stools with Ulcerative Processes in the In[illegible] ämolytisch wirkender Stoffe im [illegible] bei ulcerativen Prozessen des [illegible] W. Röhmer.

76. **Acute Myeloid Leukemia.**—The findings in the case reported indicate a myeloblast leukemia. The patient was a man of 41 and the disease ran its fatal course in less than four months.

77. **Pathogenesis of Pernicious Anemia.**—This communication from Schmidt's clinic at Halle reports much experimental research, especially with the extract of the gastrointestinal mucosa *after death from pernicious anemia* and with the mucosa from dogs with gastrointestinal affections. The extract of the mucosa under certain conditions had a pronounced hemolytic action. It seems probable that an inflammatory infiltration in the gastrointestinal mucosa plays an important part in the development of pernicious anemia. The inflammatory catarrhal process leads to the production of an intensely hemolytic lipoid substance. That every catarrhal affection is not accompanied by anemia is due to the compensating action of the bone marrow which replaces the destroyed blood corpuscles as fast as they are destroyed. The process has to be very severe or very long continued to result in a pernicious anemia.

78. **Paroxysmal Hemoglobinuria.**—Meyer and Emmerich's views in regard to the origin of paroxysmal hemoglobinuria have been already mentioned in these columns. They think it is now established that in all certain cases of paroxysmal hemoglobinuria a complex hemolysin is present in the blood which does not act unless it has been chilled and afterward rewarmed again to body temperature. This autohemolysin was demonstrated in the four cases described.

79. **Exclusive Milk Diet in Treatment of Obesity.**—Hedinger *gives the metabolic findings in five persons restricted to less* than a quart of milk a day, the Karell cure, advocated in treatment of obesity. The deficit in nitrogen was found greater than hitherto supposed, and there was retention of salt, his opinion on the whole being that it is possible to find a more rational method of underfeeding which, with the same small numbers of calories, will still supply sufficient albumin and maintain the nitrogen balance undisturbed. Possibly the Rosenfeld-Richter potato diet may answer the purpose better.

Deutsche medizinische Wochenschrift, Berlin

June 10, XXXV, No. 23, pp. 1001-1048

83 Close Connection between Condition of Tension of Muscles and Pupil Disturbances. (Weitere Beobachtungen über im katatonischen Stupor beobachtete Pupillenphänomene nebst einem Erklärungsversuch der "katatonischen Pupillenstarre.") A. Westphal.

84 Korsakow's Psychosis as Result of Concussion of the Brain. (Zur Kenntnis der akuten traumatischen Psychose.) O. Aronsohn.

85 *Hysterical Pseudopalsy. (Pseudoparalysis agitans hysterica.) *Müller de la Fuente.*

86 Cellular Pathol[illegible] Diseases. (Die Theorie der [illegible]belt.

87 *Natural Resista[illegible]

88 *Superiority of Hot Oil for Sterilization of Instruments, etc. (Neues Sterilisierungsverfahren.) H. Conradi.

85. **Hysteric Pseudoparalysis Agitans.**—The patient in de la Fuente's case was a well-to-do English spinster of 28 *who had lost her mother from progressive paralysis agitans and who dreaded its appearance in herself,* as she had heard that it was a hereditary and contagious disease. She developed the typical syndrome on the right side, with the gait and stoop of her mother. The physician first consulted diagnosed hysteria, which disgusted her so that she did not consult a physician again for years. Then a persevering course of encouraging suggestion restored her confidence and soon cured her completely; there has been no relapse during the three years since.

87. **Natural Resistance to Tuberculin.**—Pickert refers especially to the cases of pulmonary tuberculosis in which, notwithstanding the presence of bacilli in the sputum, the general health keeps good and the earning capacity is not reduced. This may be due to some special structure of the lung preventing the bacilli from spreading, or it may be the result of some special resisting power on the part of the body maintaining a high immunity to the toxin secreted by the bacilli. The serum from patients in this second group is able to neutralize the tuberculin used for the cutaneous test so that injection of the mixture causes no reaction, while the controls all show a pronounced reaction. In these exceptionally resistant cases, injections of tuberculin also show augmented resistance to the tuberculin. The substance in the blood serum of untreated patients which thus neutralizes the tuberculin becomes apparent also in tuberculous patients under tuberculin treatment—a striking proof, he thinks, that Koch's tuberculin therapy induces, in the best sense of the word, a natural healing process, imitating the healing processes of Nature.

88. **Hot Oil for Sterilizing Instruments.**—Conradi calls attention to hot oil as the most certain means of destroying all germ life on instruments and catheters; it is much more effectual than boiling water. The vessel holding the oil is heated to 200 C. (392 F.) or over, and then set in a vessel of cold water to cool, and the instruments are soon ready for use, without the possibility of harm, while the hands are lubricated with the oil, but not rendered slippery. As the boiling point of oil is above 300 C., there is no loss of oil below this and the supply can be used over and over again for the purpose.

Deutsche Zeitschrift für Chirurgie, Leipsic

May, XCVIII, No. 6, pp. 503-579

89 *Omental Tumors due to Adhesive Inflammation or Preceding [illegible] im Anschluss an Bauchoperationen [illegible] er Bauchorgane vorkommende ent- [illegible] des Netzes—Epiploitiden.) D. G. Zesas.
90 Volvulus of Entire Small Intestine and Ascending Large Intestine with Common Ileocecal Mesentery. Blecher.
91 Two Cases of Solitary Kidney Successfully treated with Decapsulation and Incision. (2 Fälle von einseitiger Niere, wegen hochgradiger Beschwerden behandelt mit Entkapselung und Sektionsschnitt.) C. Lauenstein.
92 *Compression from the Thymus. (Zur Druckwirkung der Thymus.) Denecke.
93 *Clinical and Experimental Study of Momburg's Technic for Expelling Blood from Lower Part of Body. (Zur Frage der Momburgschen Blutleere.) H. Rimann and W. Wolf.

89. **Omental Tumor from Adhesive Inflammation.**—Zesas summarizes 44 cases from the literature, all but 8 of postoperative origin. The epiploitis generally subsides under bed rest or wet packs and inunction of potassium or mercurial ointment. In a few exceptional cases the epiploitis led to peritonitis or other fatal complication.

92. **Pressure from the Thymus.**—Denecke reports a case in which the large thymus compressed the vein trunks, causing attacks of syncope. The patient was a boy of five cured by resection of part of the thymus on each side. The supraclavicular fossa on each side protruded as the child cried and the veins in the neck swelled to finger-thick cords, while there was very little stridor during inspiration. He reviews the similar cases in the literature.

93. **Momburg's Method of Expelling Blood from the Lower Part of the Body.**—This method of hemostasis has been studied experimentally and in the clinic by Rimann and Wolf, who call attention to the effect on the pulse of this circular compression of the trunk. The constricting belt causes the blood pressure to rise; if the heart is healthy it can stand this high blood pressure without damage, and all is well, but if the heart yields and becomes dilated there is danger of irremediable collapse. They warn that this new method should be applied only when the heart can be relied on. A healthy young heart can stand it, but it should not be used in arteriosclerosis or valvular defects, even if well compensated. In the two clinical cases reported, the belting technic for constriction had been applied for an operation for rectal cancer. In the first case the belt was applied during the operation to arrest the excessive bleeding, which it did at once. The pulse continued strong for nearly two minutes, then grew weaker and became imperceptible by the fifth minute, the patient going into collapse. The belt was at once removed, when the patient revived and the operation was completed. The patient, a man of 70, with moderate arteriosclerosis, died four weeks later of pneumonia. In the other case the patient was a woman of 42 with normal findings in the thorax, the belt was applied before the operation, the blood pressure 115 mercury. The pressure dropped to 85, then to zero in two minutes. The belt was removed the fifth minute and the blood pressure rose in one minute to 75. Examination twenty-four hours later revealed signs of mitral insufficiency which unmistakably had a causal connection with the Momburg constriction. Digitalis was given for three weeks, the pulse remaining irregular for twelve days, after which it resumed its former forcible and regular rate, while there was no further trace of dilatation of the heart or of systolic murmur at the apex.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XX, No. 2, pp. 195-376. Last indexed May 15, p. 1630

94 *Cholecystitis and Cholangitis without Concrements Riedel.
95 *Fibrinous and Purulent Prehepatitis. Id.
96 Pathology of Jaundice. (Zur Pathologie des Ikterus.) O. Fischer.
97 Resection of Long Stretches of Intestines. (Erwiderung auf die Arbeit von Prof. Albu über Versuche über Ausschaltung von Dünn- und Dickdarm.) W. Denk.
98 Coagulating Property of Blood from Surgical Standpoint. (Verwertung der Koagulationsbestimmung des Blutes in der Chirurgie.) W. Denk and I. Hellman.
99 *Case of Brain Abscess with Complicating Meningitis. (Hirnabscess kompliziert durch Meningitis.) G. Bonvicini and H. v. Haberer.
100 Pathology of the Movements of the Intestines. (Zur Pathologie der Darmbewegungen.) G. Hotz.
101 Foreign Bodies in Appendix. (Fremdkörper im Wurmfortsatz.) Rammstedt.
102 Hemorrhage in Diseased Appendix. (Blutungen im kranken Wurmfortsatz.) R. Kretz.
103 *Surgical Treatment of Gastric Ulcer. (Zur chirurgischen Therapie des Ulcus ventriculi.) P. Clairmont.
104 *Neoplastic Nature of Enlargement of Prostate. (Pathogenese der "Prostatahypertrophie.") W. Runge.
105 Chronic Rigidity of Spine. (Chronische Wirbelsäulenversteifung: Spondylarthritis ankylopoetica, und Fall von Wirbelsäulenversteifung.) V. Reichmann.

94. **Inflammation of the Gall Bladder, etc., without Concrements.**—Riedel found no stones in 11 of 65 patients operated on for supposed gallstone disease during the last year. The adhesions left by a cholecystitis without stones generally cause no disturbance, but sometimes they induce intense pain and dilatation of the stomach follows if the passage of the food in the duodenum is interfered with. He has cured a number of patients by severing such adhesions. He describes three cases in which the trouble was an acute infection of the gall bladder, without stones, and the year or more of health since demonstrates that the dreaded cancer did not exist. In one case a young woman had been taken suddenly sick, vomiting constantly, and reacting with a chill to lavage of the stomach or any disturbance of the flow of bile, and finally collapse as three quarts of serous fluid collected in the bile passages. She recovered slowly after the operation, but after the cure of a streptococcus gall bladder affection was restored to complete health. The cholangitis may have been due to streptococci from the gall bladder. In two other cases the disturbances were not severe except for the jaundice; he did not operate, but is still treating these patients with Carlsbad water and is confident of a speedy cure. The severe cases require drainage of the gall bladder, but a course at Carlsbad is advisable in all cases when attainable.

95. **Fibrinous and Purulent Prehepatitis.**—This affection is an inflammatory process occurring exclusively on the anterior aspect of the liver. If aseptic there is fibrinous inflammation, sometimes but not always complicated with the cholecystitis without concrements, but if there is infection there may be suppuration and an abscess. In three cases the aseptic inflammation led to extensive adhesions, causing painful traction and requiring operative intervention, but there was no enlargement of the liver or trace of edema. In three other cases the purulent prehepatitis caused symptoms mistaken for a perforation of the gall bladder. The patients were between 33 and 62, except one child of 2, with protuberant liver region, which proved to be a prehepatic abscess and gave the clue to the other cases. The origin of the aseptic cholecystitis and cholangitis without concrements is still a mystery, as also of this collection of laudable pus in front of the liver in these cases of prehepatitis.

99. **Brain Abscess with Complicating Meningitis.**—The patient was a woman of 32 and the brain abscess was of otitic origin. The case is studied from the neurologic, surgical and general medical points of view, some of its features encouraging an attempt to trephine even in suppurative diffuse meningitis, the technic for which is discussed.

103. **Operative Treatment of Gastric Ulcer.**—Clairmont relates the experiences at von Eiselsberg's clinic with a total of 259 operations for gastric ulcer. The mortality has been reduced in the twelve years covered from 24.5 per cent. to 6.6 per cent., and with posterior retrocolic gastroenterostomy from 16.6 to 3.5 per cent. The ultimate outcome of a gastroenterostomy is a complete cure in only 52 per cent. of the cases, with improvement in 15 per cent. The outlook is more promising the nearer the ulcer to the pylorus. In only 3 per cent. of the total number of cases was it impossible to locate the ulcer by the anatomic findings. Ulcers accompanied by inflammatory tumefaction and callous penetrating ulcers give

especially favorable results with operative treatment, provided they are not too far distant from the pylorus.

104. **Pathogenesis of Enlargement of the Prostate.**—Runge examined the prostate after removal on account of excessive enlargement in 29 cases, the patients being between 70 and 90 in all but 6 cases, in which the ages ranged from 20 to 60. In 2 cases each there was tuberculosis or an abscess; in 2 the prostate was apparently of normal structure, and in 1 it was atrophied. In the 22 others the microscope revealed that the prostate was the seat of adenomatous proliferation and consequently that the enlargement was of neoplastic nature.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

June, XXIX, No. 6, pp. 677-968

106 *Promotion of Breast Nursing. (Zur Physiologie und Technik der natürl [illegible] Neugeborenen.) R. T. Jaschke.
107 Puerperal [illegible] or Hemorrhagic Sepsis. E. Sachs.
108 Dilatation of the Cervix. Uterine Forceps. H. Wendel.
109 *Results of Treatment of Uterine Cancer. (Ergebnisse der [illegible] eruskarzinoms.) G. Klein.
110 [illegible] in Wall of Ovarian Cystoma. (Riesen- [illegible] Wand eines Ovarialkystom.) R. Pucher.
111 [illegible] Birth of Twins. (Zwillingsgeburt bei doppeltem Uterus.) H. Cramer.
112 *Nature of Pregnancy Disturbances and their Prevention. (Wesen der Schwangerschaftsbeschwerden und ihre Verhütung.) E. Diesing.
113 Growth of Hips in Breadth according to Age and Sex. (Wachstum der Hüftbreite nach Alter und Geschlecht.) S. Weissenberg.
114 Etiology of Leakage of Amniotic Fluid and of Pregnancy outside the Fetal Membranes. (Aetiologie der Hydrorrhoea amnialis und der Graviditas extramembranacea.) F. Hornstein.
115 Treatment of Rupture of the Uterus. C. Schütte.
116 *Fatalities after Palliative Interventions on Uterine Cancer. (7 Todesfälle nach Palliativeingriffen beim Carcinoma uteri.) P. Zacharias.
117 Metastasis in the Skin from Uterine Cancer. (Hautmetastasen beim Uteruskarzinom.) H. Offergeld.
118 Wedge Resection of Fundus of the Uterus. (Keilresektion des Fundus uteri.) F. Heinsius.

106. **To Promote Breast Nursing.**—In this communication from von Rosthorn's gynecologic clinic at Vienna, Jaschke states that it was possible to secure the mother's milk in sufficient amounts in 91.3 per cent. of 1,000 children, while mixed feeding was obtained in 7.9 per cent. and only 0.8 per cent. had to be artificially fed. This was the regular sequence of births, and he succeeded in obtaining a normal secretion of milk by various measures, including suction apparatus at first to make the milk come more readily and drawing the milk with a breast pump to feed the child with a spoon when for any reason it did not get enough. One very important point, however, is that the child was made to suck for a few minutes each time before being fed with a spoon. Success depends mainly on the skill and devotion of the attendants, who must favor the natural nursing in every possible way, and this requires skill and immense patience. He is convinced that the loss in weight after birth is the result of insufficient food, and that it is possible to prevent it by giving pumped mother's milk, keeping control of the amount by weighing the child three or four times a day. His average of 18 healthy children was 19 c.c. the first day; 90 c.c. the second; 193.2 c.c. the third; 260.4 c.c. the fourth; 339.3 c.c. the fifth; 402 c.c. the sixth; 415.6 c.c. the seventh, and 470.5 c.c. the eighth. Unless the child gets about these amounts it is insufficiently nourished. In one ward with unusually conscientious attendants the children obtained their natural heritage of mother's milk in all but 0.5 per cent., with only 1.7 per cent. requiring additional food.

109. **Uterine Cancer.**—Klein comments with horror on the small proportion of women alive after five years, the absolute cures amounting to only 3.6 per cent. in his experience with 421 cases of uterine cancer. Only 40 per cent. were operable, and this is the factor that should be energetically combated. He urges medical societies to appoint committees to educate the public and warn them against the dangers from quack practices, especially in cases of cancer.

112. **Disturbances of Pregnancy and Their Prevention.**—Diesing has long practiced in the orient and in Africa, but never witnessed there an instance of the pregnancy disturbances common elsewhere. He ascribes this difference mainly to the different diet. The pregnant woman uses up iron more than sulphur, so that the latter predominates in the blood, and this is the cause of the disturbances. The sulphur is derived from the albumin of the food, mostly in the form of meat. The African races do not allow women to eat meat.

116. **Fatalities After Curetting Uterine Cancer.**—Zacharias reports seven cases which warn against the danger of opening a passage into the blood for the virulent germs in a cancer during the course of a palliative scraping of an inoperable uterine carcinoma. His experience indicates that it is wiser not to curette before removing an operable malignant growth.

Münchener medizinische Wochenschrift

June 8, LVI, No. 23, pp. 1162-1216

119 *Mistakes in Diagnosis of and Failures in Treatment of Ear Diseases. (Aus dem Gebiete der Ohrenheilkunde.) H. Schwartze.
120 Spread of Syphilis at Freiburg since Abolition of Medical Inspection of Prostitutes. E. Jacobi.
121 *Primary Tuberculosis of Nasopharynx. (Zur Kenntnis der primären Tuberkulose der Nasenrachenschleimhaut.) H. Merkel.
122 *Pseudomembranous Enteritis. (Ueber kruppöse Darmentzündungen.) G. Baermann and O. Eckersdorff.
123 Medullary Pseudoleukemia. v. Domarus.
124 Roentgen-Ray Inspection of Concrements in the Prostate. (Röntgenologie der endogenen Prostatakonkremente.) G. Forssell.
125 Hypertrophic Stenosis of Pylorus in Infants. K. Kaspar.
126 Technic for Local Anesthesia for Immediate Repair of Perineal Tears. (Schmerzlose Dammnaht.) Mathes.
127 Tuberculosis-Immune Opsonins. (Bakteriotropine.) A. Böhme. Commenced in No. 22.
128 *Substitute for Bismuth in Roentgen Work. (Ersatz des Wismut bei Röntgenaufnahmen.) K. Taege.

119. **The General Practitioner and Treatment of the Ears.**—Schwartze says that he has repeatedly encountered instances of actual harm done by "pseudospecialists" in otology, or by general practitioners failing to differentiate ear affections or overlooking them or inflicting injury in attempts to extract foreign bodies from the ears. He has known of cases in which the symptoms of internal ear disease, vertigo, nausea, vomiting, were ascribed to a stomach disorder, while pyemia originating in the ear was diagnosed as typhoid on account of the fever, diarrhea, enlargement of the spleen and bronchitis observed. Otitic pyemia may even simulate acute articular rheumatism, although the discovery that the larger joints are affected first speaks for the former trouble; in acute rheumatism the small joints are generally the first involved. When the otitic pyemia assumes a chronic form it is difficult sometimes to recognize it; but abrupt changes from high fever to subnormal temperature within a single day or a few hours should suggest it. The physician is also liable to blunder by assuming an ear affection when none exists, as in cases of radiating pains from a carious tooth or acute angina, or rheumatic pains, or subjective noises in the ears in chlorosis and anemia without reduction of hearing capacity. Eczema of the outer ear, if neglected, may even simulate a malignant tumor. In a recent case he removed a necrotic cholesteatoma from a patient who was in a very serious condition from the disturbances connected therewith; for weeks she had been under the treatment of a "pseudospecialist," who had diagnosed the case as a furuncle and applied treatment accordingly. A prolapsed, swollen or protuberant tympanic membrane may be mistaken for a polyp, as occurred once in Hyrtl's experience, the attempt at extraction resulting in the death of the patient from meningitis. Operations may be performed on lymph glands in the neck, the surgeon overlooking the causal chronic ear affection. He warns further that repeated injection of a warm fluid into the ear is liable to transform a mere catarrhal affection of the middle ear into a suppurative process or aggravate such. Salt is as efficient in sterilizing the ear as boric acid, he says, and when used for rinsing the ear, in the proportion of a heaping teaspoonful to the quart of boiled water (7.5 gm. to the liter), it prevents the raising up of the epithelium of the mucosa in the middle ear. Blister revulsion does no good in acute otitis media, and insufflation of a powder in cases of suppuration in the middle ear is dangerous, as it may glue up the opening and shut in the pus. It is permissible only with a large defect in the membrane, and the patient should never be allowed to insufflate the powder. He has recently encountered three serious cases of foreign bodies in the ear; in one a small pebble had been forced into the drum by unskillful maneuvers to remove it, and although the pebble was removed later by an

operation, yet fatal meningitis resulted. Every year, he adds, a not inconsiderable number of persons lose their lives in consequence of foreign bodies in the ears, but not so much from the foreign bodies themselves as from the attempts to extricate them. Syringing with warm water is all that should be done to extract them. Never, he adds, never allow yourselves to be tempted to seek to extract them with an instrument. An insect in the ear may be killed by cigar smoke or a little warm water, or, better still, the fumes of chloroform; maggots may be expelled by pouring sterilized oil into the ear; they come to the surface of the oil as they begin to suffocate. The dreaded "earwig" very seldom gets into the ear, but he has known of many instances of fleas, bedbugs, small beetles and mites entering the ear. Numerous cases of injury have come under his notice in which injury resulted from attempts at extraction of a foreign body when there was none present, or it was in the other ear. In case of recent trauma affecting the ear it should not be rinsed out, and manipulations with instruments should be avoided as much as possible. The only correct treatment is an aseptic protecting dressing and rest in bed. Insufflation of air is dangerous, he declares, in sclerosis of the middle ear, especially in unilateral ear trouble, and nose douches and syringing may also affect the ear unfavorably. Intranasal operations often set up an acute otitis, sometimes entailing pyemia; operations for chronic empyema in the accessory cavities should be restricted to the cases with intolerable headaches. Evacuation of the sphenoidal and ethmoidal sinuses may also lead to injury of the base of the brain, with fatal meningitis; the rarity of published cases of this kind does not mean that such mishaps do not occur more frequently.

121. **Primary Tuberculosis of the Nasopharynx.**—Merkel has found only four cases on record of primary tuberculosis of the nasopharynx confirmed by autopsy, and here reports a fifth case. Without the autopsy findings it would have been recorded as an unquestionable case of pulmonary tuberculosis with secondary tuberculous meningitis. Tubercle bacilli were found constantly in the sputum, but the focus in the nasopharynx was the only manifestation of tuberculosis discovered in the cadaver, and this gave no sign of its presence except the bacilli which were ascribed to the lungs.

122. **"Croupous Enteritis."**—This communication from Sumatra reports an epidemic of an acute intestinal affection with a tempestuous onset with fever, leucocytosis, rapid pulse, violent colics, blood-stained stools and tenesmus and speedy fatal termination. Ten cases are reported with autopsy findings; a pseudomembrane had developed at points in the small or large intestine, or both, and streptococci were found in overwhelming numbers.

128. **Substitute for Bismuth in Roentgen Work.**—Taege has found that the addition of 1 per cent. tragacanth to the suspension of magnetic oxid of iron, which has been recommended recently as a substitute for bismuth, will hold the iron perfectly in suspension for hours. Otherwise it soon drops to the bottom of the vessel. He mixes the tragacanth with the oxid, then adds the water, and shakes the whole in a bottle.

Virchows Archiv, Berlin

June, CXCVI, No. 3, pp. 385-576

129 Pathologic Anatomy and Pathogenesis of Syringomyelia and Similar Affection of Medulla Oblongata. (Syringomyelie und Syringobulbie.) K. Petren. Commenced in No. 2.
130 Changes in Pancreas with Cirrhosis of the Liver. (Veränderungen des Pankreas bei Leberzirrhose.) S. M. Poggenpohl.
131 Chronic Metritis. L. Hirsch.
132 Guanin Crystals in the "Interference Cells" of the Amphibia. E. Neumann.
133 Request for Autopsy in 1591. (Aufforderung zu einer Privatsektion.) D. v. Hansemann.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXIV, No. 3, pp. 449-694. Last indexed June 12, p. 1964

134 Fever with Uterine Myomas. (Fieber bei Myomatosis uteri.) O. v. Franqué.
135 Measurement of True Conjugate Diameter. (Direkte und indirekte Messung der Conjugata vera.) O. Polano.
136 *Relation of Retention of Membranes and Placenta to Puerperal Fever. (Beziehungen der Eihaut- und Placentarretention zum Puerperalfieber.) R. Puppel.
137 *Direct [illegible] is as Modification of the Trendelen [illegible] Beckenhebung, eine Abänderung der Beckenhochlagerung.) E. Opitz.
138 Vaginal Staphylococci. P. Jung.
139 Traumatic Epithelial Cysts in the Vagina. J. Risch.
140 Involvement of Rectum in Adenoma of the Uterus. (Uebergreifen der Adenomyome des Uterus auf den Mastdarm.) O. v. Franqué.
141 *Surgical Treatment of Puerperal Fever. (Zur chirurgischen Behandlung des Kindbettfiebers.) A. Koblanck.

136. **Connection Between Retention of Membranes and Placenta and Puerperal Fever.**—Puppel's experience speaks against the assumption that retention of part of the fetal membranes or placenta can cause puerperal fever; he is convinced that active measures to remove retained scraps are not justified, and may lead to severe infection. Only when there is much hemorrhage and high fever should the attempt be made to remove placenta scraps. Especially with febrile processes it must be done with extreme care and caution not to fan the flame. He has found in the literature records of twenty cases of retention of membranes or placenta or both without a trace of fever, and to this list he adds thirteen from his own practice. Review of autopsy records has shown further that retained scraps of placenta tissue were found in only 3.7 per cent. of all the fatal cases of puerperal fever, and could not have been the cause of the fever. On the other hand, evacuation of the uterus in thirteen cases without a trace of fever was followed by development of fever in 61.5 per cent. of the cases, very serious in 50 per cent. The results were still more pernicious when the infection had already spread beyond the uterus; fatal pyemia followed promptly in two such cases.

137. **Pushing Up the Pelvis; a Modification of the Trendelenburg Position.**—Opitz has the woman recline on a horizontal table with a board under the buttocks. This board is then raised by a screw operated from beneath the table, lifting the woman's pelvis while head and shoulders and feet still rest on the horizontal table. His illustrations show the much greater oversight of conditions in the pelvis possible with this technic, the ampler access and the consequent shortening of the time required for operating in the pelvis, all of which his experience in the clinic has fully confirmed. The same device might be useful applied to the kidney or other region. One advantage of the lifting device is that the patient is less liable to be burned by the arrangements to keep the operating table warm. He adds that the problem of keeping the patient warm during the operation is not yet solved. The pressure of the relaxed body drives the blood out of the skin and thus renders it more liable to feel the effect of heat which otherwise would scarcely affect it. With the lifting device the table can be kept warm; the patient lies in the ascending hot air. A further advantage is that there is no interference with the circulation at the knees as with the Trendelenburg position.

141. **Surgical Treatment of Puerperal Fever.**—Koblanck states that from Feb. 1, 1907, to Jan. 1, 1909, 484 patients with puerperal fever have been treated at the Virchow hospital at Berlin, including 100 with general sepsis. In 6 cases of diffuse puerperal peritonitis, incision and puncture saved 2 of the women; in the other cases the intervention came too late. In 7 cases of puerperal suppurative thrombophlebitis, resection of the left ovarian vein was followed by recovery in 2 cases. In 15 cases of sepsis the uterus was removed and 6 of the patients recovered. In 8 of the 10 cases in this group in which bacteriologic examination was made, hemolytic streptococci were found, and he refrained from operating in the absence of this finding as the prognosis with the nonhemolytic streptococci and hemolytic other microbes is more favorable. In case of metastatic involvement of heart, eyes or air passages, the prognosis is so bad that hysterectomy offers no chances for success. Among the 100 cases of sepsis the heart was involved in 19 patients and only 2 of these recovered. In 8 cases the eyes were involved, and all but one of these patients succumbed. In 55 cases with serious involvement of the lungs or pleura in the septic process, only 9 patients recovered, and 2 of these had required resection of ribs for a suppurative streptococcus pleurisy. Septic joint processes were observed also in 8 patients, and only one of them recovered. These figures show the gravity of these metastatic processes, but they also encourage hysterectomy even in the most desperate cases, as 2 patients with severe endocarditis recovered, one with hemorrhage into the retina and pneumonia and another with streptococcus pleurisy. Be-

sides removing the infected uterus, the accessible metastases should also be operated on. Remarkable results from multiple intervention were obtained in some of the cases reported. The general condition is the index whether to operate or not, but he has been amazed at the way in which patients in general sepsis tolerate long and severe operations. The vaginal route is indicated only when general sepsis is threatening. Once established the abdominal operation is indispensable; if for no other reason, because the uterus is so decayed that it is impossible to remove it whole.

Hospitalstidende, Copenhagen

May 12, LII, No. 19, pp. 569-600

142 *Vaccine Treatment of Colon Bacillus Infection of Urinary Organs. (Om Vakcinationsbehandling af Colilnfektion i Urinorganerne.) T. Rovsing.
143 *Invagination of the Bowel in Children and its Treatment. (Om Tarminvagination hos Born og dens Behandling.) C. E. Bloch. Commenced in No. 18.

May 19, No. 20, pp. 601-640

144 *Treatment of Acute Bleeding Gastric Ulcer. (Behandlingen af det akute blødende Mavesaar.) L. Kraft.

May 27, No. 21, pp. 641-680

145 Research on Secretion of Pepsin. K. Schroeder.

142. **Vaccine Treatment of Colon Bacillus Infection of Urinary Organs.**—Rovsing states that he made a trial of Wright's vaccine technic in treatment of colon bacillus nephritis and pyelitis entering on it with much skepticism, but he has become convinced of the great value of this method of treatment. He relates the histories of four out of the twelve patients thus treated, showing the prompt cure after failure of all other measures, and he urges others to try this technic in all cases rebellious to other methods of treatment. The reaction, both general and local, is surprisingly mild, and the local reaction might be reduced still more if the fluid was fractioned and injected at different points. The vaccination does not seem to affect the proliferation of the bacilli in the urine, and consequently he advises as supplementary measures a retention catheter and irrigation of the bladder with 2 or 3 liters of distilled water and 1 gm. (15 grains) of salol internally three times a day. The value of the vaccine treatment was especially evident in one case, the patient, a v-para of 65 with colon bacillus infection for a number of years and recurring acute nephritis. The last attack was septicemic, with coma and blindness in the right eye from thrombosis. Rovsing is convinced that the vaccine treatment was life-saving in this instance. The patient has had no signs of trouble during the six months since.

143. **Invagination of the Bowel in Children.**—Bloch reports nine cases to show the various types of symptoms that may be observed, and to sustain his assertion that non-operative measures have little prospects of success unless within the first twenty-four hours and only when the invagination is in the ileocecal region or in the large intestine. By attempting non-operative interference time is wasted and conditions rendered less favorable for successful operative measures later. If the first thorough attempt at reduction fails, there is little hope of its succeeding later. None but a skilled surgeon should handle the case.

144. **Treatment of Acute Hemorrhagic Gastric Ulcer.**—Kraft thinks that the treatment of hemorrhage from an acute gastric ulcer has entered on a new phase with gastroscopy and diaphanoscopy especially as introduced by Rovsing, described in The Journal, Oct. 24, 1908, page 1476. Surgeons have shrunk hitherto from attempting operative measures for acute gastric ulcer on account of the difficulty of locating the source of the hemorrhage. The acute gastric ulcer may be located anywhere in the stomach, it may be so small as to escape discovery, while the blood pressure drops so much under the influence of the anesthetic that the blood no longer oozes from the arroded vessel and it is thus overlooked. In half of the cases of operation reported in the literature it proved impossible to locate the ulcer and in half of these cases the patient died. The long search for the ulcer and the longer anesthesia required aid in depressing the vitality. All this has been changed by the introduction of diaphanoscopy which reveals a dark shadow where the blood is oozing from the arroded vessel, and Kraft reports two cases in which he operated under diaphanoscopy, the bleeding vessel disclosing itself at once by the small dark shadow. He threw a ligature around this vessel, making a sunken ligature. Immediately after the vessel had been ligated the outer end of the vessel, peripheral to the ligature, emptied itself of blood and the shadow cleared up, confirming the fact that the right vessel had been ligated. If the dark shadow had been cast by a thrombus, no change in the shadow would have followed the ligation. The buttonhole required to insert the gastroscope is too insignificant to make any demands on the patient's vitality, in comparison to the ordinary methods of operative interference for gastric hemorrhage. In his first case he had no gastroscope and used an ordinary cystoscope, not even having time to disinfect it thoroughly, consequently he had to pay the greatest attention to keep it from contact with the tissues. The operation was undertaken the seventeenth day after the first and only hematemesis, but there had been traces of blood in the stools constantly afterward. In about two months the patient was entirely cured of gastric trouble and now eats ordinary diet without disturbance. In the second case, by some technical blunder the electric current became short circuited and the tissues were burned during the diaphanoscopy, resulting in fatal sloughing, but autopsy revealed that the sunken ligature had answered its purpose perfectly. Preliminary rinsing out of the stomach was found an important aid for the diaphanoscopy. He comments on this rapid, easy, simple and certain method of treating bleeding gastric ulcer as destined to wide application when the general practitioner learns to appreciate it and refers the patients to the surgeon before the anemia becomes so intense that the outcome under any circumstances is doubtful.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Practical Gynecology. A Manual for Nurses and Students. By Netta Stewart, Sister in the Gynecologic Wards of the Royal Infirmary, Edinburgh, and James Young, M.B., F.R.C.S.E., Clinical Tutor in Surgery and Late Resident Gynecologist, Royal Infirmary Physician to Lauriston Pre-Maternity Home, Edinburgh. Cloth. Pp. 327, with illustrations and plates. Price, $2.00, net. New York: William Wood & Co., 1909.

The Harmful Effects of Acetanilid, Antipyrin, and Phenacetin. By L. F. Kebler, Ph., C., M.D., Chief Division of Drugs, with the Collaboration of Drs. F. P. Morgan and Philip Rupp, Assistant Chemists, U. S. Department of Agriculture, Bureau of Chemistry. Bulletin No. 126. Paper. Pp. 85. Washington: Government Printing Office, 1909.

Report on National Vitality, Its Wastes and Conservation. Bulletin of the Committee of One Hundred on National Health. Prepared for the National Conservation Commission by Professor Irving Fisher, of Yale University, Member of the Commission. July, 1909. No. 30. Paper. Pp. 138. Washington: Government Printing Office, 1909.

Lehmann's Medizinische Atlanten. Band viii. Atlas und Lehrbuch der Hygiene mit besonderer Berücksichtigung der Städte-Hygiene. Herausgegeben von Professor Dr. W. Prausnitz, Vorstand des hygienischen Instituts der Universität Graz. Cloth. Pp. 699, with illustrations. Price, 28 marks. München: J. F. Lehmann's Verlag, 1909.

Lehmann's Medizinische Atlanten. Band vii. Atlas und Grundriss der Röntgendiagnostik in der inneren Medizin. Herausgegeben von Dr. med. Franz M. Groedel, Bad Nauheim. Cloth. Pp. 338, with 297 illustrations. Price, 24 marks. München: J. F. Lehmann's Verlag, 1909.

Handbook of the Diseases of the Nose and Throat. By Eugene S. Yonge, M.D., Physician to the Manchester Hospital for Consumption and Diseases of the Throat. Cloth. Pp. 407, with illustrations. Price, 9 shillings, net. Edinburgh: William Green & Sons, 1909.

Rational Immunisation in the Treatment of Pulmonary Tuberculosis and Other Diseases. By E. C. Hort, B.A., B.S.C., M.R.C.P. Cloth. Pp. 75, with illustrations. Price, $1.50. New York: William Wood & Co., 1909.

Transactions of the Royal Academy of Medicine in Ireland. Vol. xxvii. Edited by James Craig, M.D., F.R.C.P.I., General Secretary. Cloth. Pp. 397, with illustrations. Dublin: John Falconer, 53 Upper Sackville St., 1909.

Agricultural Bacteriology. By H. W. Conn, Ph.D., Professor of Biology at Wesleyan University. Second Edition. Pp. 331, with 64 illustrations. Cloth. Price, $2.00, net. Philadelphia: P. Blakiston's Son & Co., 1909.

Proceedings of the American Society for Psychical Research. Vol iii. July, 1909. Part 1. Paper. Pp. 592, with illustrations. New York: 519 W. 149th St.

Transactions of the New Hampshire Medical Society. 118th Anniversary held at Concord, May, 1909. Paper. Pp. 335.

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Addresses

TROPICAL DISEASES—AMERICA'S OPPORTUNITIES AND OBLIGATIONS*

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The race for empire from its beginning has suffered more from disease and pestilence than from the implements of war. This fact has furnished many examples of stimulation to medical research. None is more striking than that given to the study of the diseases of warm climates as a result of the struggle of the nations for the possession of the tropics.

The close of the nineteenth century found the work of the colonizing powers practically at an end, in that nearly all of the available territory of the earth had been entered on and occupied. With these acquisitions, however, the mother countries realized that their work had but begun. To bring these great tracts of earth under the dominion of civilization, to develop their abundant resources, to give peace and prosperity to their fertile soils, they wisely realized that another foe had to be conquered—realized that they must learn the causes, nature, and means of prevention of the diseases which have always formed the greatest barrier to the colonization of these countries.

On August 27, 1897, after ten years of laborious research, under the most disadvantageous circumstances, success crowned the efforts of a hero and scientist—a success which well might inspire his poetic nature to sing:

"This day relenting God
Hath placed within my hand
A wondrous thing: and God
Be praised. At His command

Seeking His secret deeds
With tears and toiling breath
I find thy cunning seeds,
O million-murdering Death.

I know this little thing
A myriad men will save.
O Death, where is thy sting,
Thy victory, O Grave?"

The discovery of Ross that the mosquito is the intermediate host of the malarial parasite, and its confirmation and extension by other distinguished scientists may be said to have stimulated renewed interest in the onslaught on tropical diseases.

With the dawn of the twentieth century we see special institutes established and commissions formed and sent out for the study of these diseases. At the close of the first decade of this work, which has resulted in epoch-making discoveries which vie with those of Jenner and Pasteur; at this meeting, when the American Medical Association is honored by the presidency of Colonel Gorgas, it seems not inappropriate to speak of "Tropical Diseases and America's Opportunities and Obligations" toward the same, notwithstanding the fact that the subject has been dealt with in several excellent addresses recently.

Sir Patrick Manson has pointed out that the "peculiarities of tropical diseases are etiologic rather than pathologic." Passing those conditions, such as insolation, heat-syncope, siriasis and tropical neurasthenia, which are the direct result of climatic and meteorologic influences found in warm countries, certain diseases are encountered which are the result of toxic substances taken in with the food, peculiar to these climates. As example of these may be mentioned ergotism, lathyrism, pellagra, and possibly beriberi.

It has also been customary to include, conventionally, in the list of tropical diseases certain bacterial infections, such as Malta fever, bubonic plague, leprosy, bacillary dysentery and cholera, because here are found social and hygienic conditions which are conducive to their prevalence. These diseases, however, can flourish in any climate and, therefore, have no real claim to be regarded as strictly tropical diseases.

The most important factor which determines the geographic distribution and limitation of tropical diseases is the fact that "certain pathogenic agents either require high atmospheric temperature for their successful passage from host to host or require an animal intermediary which flourishes only in high temperatures" (Manson). As examples of the former may be mentioned uncinariasis, amebic dysentery and certain parasitic skin diseases; of the latter, malaria, trypanosomiasis, African tick fever, filariasis, yellow fever and possibly dengue.

While this fact of high temperature is found at its best in the tropics, these diseases are by no means confined to the equatorial zone, extending around the earth between the tropics of Cancer and Capricorn. The same condition is found in subtropical regions, and in the temperate zone during the summer season. Our increasing knowledge of these diseases is demonstrating their prevalence in these regions.

So keen has been the interest; so great have been the achievements in tropical diseases during the last decade, that it will manifestly be impossible for me to do more at this time than to call attention to some of the more important advances which have been made in this domain of medicine.

The report of the hitherto unsuspected occurrence of pellagra in the United States has excited widespread interest here in this disease, which has proven and still proves a veritable scourge in Italy and other European countries. In these countries pellagra is described as a chronic disease characterized by an erythematous exanthem, gastrointestinal phenomena and nervous and psychic disturbances. It is generally regarded as an intoxication due to the using as food the products of unsound Indian corn. "Possibly the specific toxic products are formed by the action of some bacterium on maize which has been cut while immature and stored in damp condition " (Novy). In view of the extensive use of the proverbial "hoe-cake" as food in the South, it is rather surprising that pellagra should have so long escaped the notice of physicians. The report of its endemic occurrence in Alabama, North Carolina, South Carolina, Georgia, Mississippi, Florida and Texas, makes the study of the disease a matter of great importance.

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* Oration on Medicine, before the Section on Practice of Medicine, at the Sixtieth Session of the American Medical Association at Atlantic City, June 8-11, 1909.

Notwithstanding the immense amount of work which has been done on beriberi, the specific cause of the disease remains unknown. The micro-organismal and food theories each still have their advocates. It may be noted that Frederick Pearce, from clinical and pathologic observations on epidemics of beriberi and epidemic dropsy in Calcutta and Howrah, strongly suggests the identity of these diseases.

The clinical syndrome which is commonly known as dysentery has been shown to be due to three distinct diseases; amebic dysentery, due to *Entamœba histolytica;* bacillary dysentery, due to *Bacillus dysenteriæ* (Shiga, Flexner and Kruse); and catarrhal dysentery, due to the action of one of several bacteria which produce a catarrhal condition of the large intestine (Strong). This knowledge has furnished the basis for the more intelligent prevention and treatment of these diseases.

Studies on Malta or Mediterranean fever have shown that this disease, capable of producing an immense amount of invalidism, has a wider distribution than was formerly supposed. Mainly through the researches carried on in 1904-05-06 by a commission appointed under the auspices of the Royal Society of London, our knowledge of the disease has been distinctly advanced. It has been shown that the *Micrococcus melitensis* is constantly present in the blood of patients suffering from the disease; that it escapes from the body chiefly through the urine; that it is found at times in the urine of perfectly healthy individuals. It has also been demonstrated that domestic animals (chiefly goats) are frequently infected and that the disease is largely if not entirely acquired by the use of the milk of these animals as food. A distinct advance in the therapy of the disease has been claimed by Bassett-Smith from the use, in chronic cases, of a vaccine prepared from cultures of the organism isolated from the spleen during life.

The march of the "black death" has advanced throughout the civilized world, and at the beginning of this decade we see it lodged in Asia, Africa, Europe, Oceania, North and South America. Fifty-one countries of these continents have been infected and millions of lives have been destroyed. Hence it is that the brilliant achievements with respect to the conveyance of the *Bacillus pestis* should rank with the epoch-making discoveries of this period.

Bannerman has pointed out that Simond in India was the first to suggest the flea as the carrier of the disease. His work, however, was discredited by the first plague commission. Captain Liston, an assistant to that commission, seeing the possibilities of this theory, continued investigations along this line, so that when the second plague commission was sent out in 1905, this method of transmission seemed the most worthy of investigation. Their carefully planned experiments and painstaking execution of the same have resulted in the following conclusions:

1. "Pneumonic plague is highly contagious, but being rare (less than 3 per cent. of all cases) plays a very small part in the spread of the disease.

2. "Bubonic plague in man is not infectious and is entirely dependent on the disease in the rat.

3. "The infection is conveyed from rat to rat, and from rat to man, solely by means of the rat flea.

4. "Plague is usually conveyed from place to place by rat fleas brought by people in their baggage or on their persons" (Bannerman).

The outbreak of plague on the Pacific coast in 1907 was suppressed by the efficient work of the United States Public Health and Marine-Hospital Service under the direction of Dr. Rupert Blue. Still, in view of the difficulties in certain areas attending the destruction of rats and rat fleas, the question of protective inoculation against plague has been the subject of extensive investigations. The researches of Strong in Manila has resulted in the production of a vaccine from attenuated plague bacilli which promises to be of great practical importance.

One of the most far-reaching results which has come about as a result of the increased interest in tropical diseases is the importance which attaches to protozoology and helminthology as fundamental medical sciences.

The researches of Laveran, Theobald Smith, Councilman, McCallum, Ross, Dutton, Novy and others stimulated men like Calkins, Minchin, Stiles, Mesnil, Nuttall, Schaudinn, and Grassi to study more carefully the protozoa. Great principles have been announced, the influence of which on medicine it is difficult to estimate.

By study of these organisms Hertwig has been able to announce the Kern plasma relation theory, Goldschmidt the chromidial apparatus, Schaudinn the nuclear dimorphism—theories and principles which offer much toward the elucidation of the long vexed questions of the physiology and pathology of the cell. Weissman's doctrine of the immortality of the protozoa has been overthrown by the fact that sexual reproduction is necessary at some period of the life cycle to rejuvenate these organisms "depressed" by vegetative activity or otherwise.

A knowledge of these life cycles has been shown to be necessary for a proper classification of these organisms, and has established close relations between phyla heretofore supposed to be widely separated.

Of greater importance in so far as tropical diseases are concerned are the results of the study of protozoa and helminths as pathogenic agents. Indeed, Sir Patrick Manson has said that in the study of tropical diseases "the student's attention is confined almost entirely to protozoa and helminths, to the special vectors or media of these organisms, to their pathologic effects, and to the prophylaxis and treatment of the diseases they give rise to."

The observations of Lösch, Kartulis, and Councilman and Lafleur had long ago established the etiologic relationship of amebas to a characteristic form of dysentery prevalent in tropical and subtropical regions and frequently associated with abscess of the liver. These observations have been confirmed by numerous observers. Much confusion, however, has existed as to the nomenclature and taxonomic position of these organisms, and even some skepticism as to their pathogenicity. Cassigandro and Barbigallo had shown that the amebas occurring in man and fresh water amebas presented sufficient difference to justify placing the former in a separate genus—entamœba.

In 1902 and '03 Schaudinn from morphologic and biologic differences, as well as from their effect on animals, was able to separate them further into two species—*Entamœba coli,* a harmless commensal of the intestinal tract, and *Entamœba histolytica,* the pathogenic agent of amebic dysentery. In 1904 Stiles summarized the various views as to the relationship of disease and amebas found in the intestine of man justifying the nomenclature of Schaudinn for those who believe in a harmless and pathogenic species. In 1908 Craig, after a most exhaustive study of the subject, wholly confirms the views suggested by Schaudinn.

It must be noted that there are still some observers who hesitate to accept the division of the entameba into pathogenic and non-pathogenic forms. These differences of opinion would seem to emphasize the desirability of relying on the full life cycle of these organisms under natural conditions rather than morphologic differences observed *in vitro* for purposes of classification.

Among the most interesting advances of this period are the discoveries which have removed trypanosomiasis far beyond the mere economic importance which it heretofore had maintained. The discovery of a peculiar, wormlike, actively motile body in the blood of a patient by Forde in 1901 and named *Trypanosoma gambiense* by Dutton stimulated investigations with respect to this organism as a pathogenic agent. The first result was the discovery of a trypanosomatic fever of man, which came about through the investigation of Dutton and Todd in 1902, under the auspices of the Liverpool School of Tropical Medicine. Shortly afterward the discovery, by Castillani, of this organism in the cerebrospinal fluid of a patient suffering from sleeping sickness led to the discovery by Bruce and others that this disease is caused by the *Trypanosoma gambiense* and that trypanosomatic fever is the first stage of sleeping sickness.

The *Glossina palpalis* has been shown to be the chief agent by which the organism is transmitted. In spite of efforts to show that the trypanosome undergoes biologic development in the tsetse fly which would be expected from what is known of the life-history of other hematozoa, the insect intermediary seems to be only a mechanical vector. Of other advances made in trypanosomiasis, the successful cultivation of these organisms *in vitro* by Novy and his associates is of importance as furnishing a method of studying these organisms. The early diagnosis of sleeping sickness by gland puncture is of the greatest importance for purposes of prophylaxis and treatment.

The rapid spread of the disease is a striking illustration of the "disseminating influence that modern travel and means of communication have on diseases formerly confined to limited areas." Advances have also been made with respect to the prophylaxis and treatment of the disease. As a result of the work in Zambesi in 1907 and 1908 by Allan Kinghorne and R. Eustace Montgomery the following means for preventing the spread of the disease have been suggested—control of native movements, segregation of cases, removal of villages from dangerous zones, clearing, education of the natives, personal prophylaxis destruction of the tsetse flies, their larvæ and pupæ. Koch further suggests the destruction of crocodiles, inasmuch as the tsetse flies subsist almost entirely on the blood of these reptiles in the neighborhood of the lakes. Atoxyl, an anilid of metarsenious acid, supplemented by antimony, promises to be of service in the treatment of the disease.

The spirochetes, a genus closely allied to the trypanosomidæ, have been the subject of much study both from the academic and practical side. The discovery that African relapsing fever is caused by a spiral organism which is conveyed from one individual to another by means of the tick *Ornithodorus moubata* (Murray) and the spirillæ of American fowls conveyed by a species of argas, as well as the already known relation of a spiral organism to European relapsing fever, and its possible conveyance by an arachnid, raised the question whether or not these organisms should not be included among the protozoa.

The brilliant researches of Novy and Knapp and Breinl would seem to clear up to some extent the confusion which has existed with respect to the spirochetes. It seems to have been shown that these spiral organisms, the Spirillum duttoni, and the Spirillum recurrentis are different species belonging to the bacteria and giving rise to different kinds of relapsing fever in various parts of the world.

These studies have aroused much scientific interest, as at first glance they would seem to furnish an exception to the general law enunciated by Stiles in 1901, that "those diseases which are dependent on insects or other arthropods for their dissemination and transmission are caused by parasitic animals." It does not seem conclusively proven that these arthropods are biologic transmitters of these diseases; that they are not necessary for the development of the spirilla, as are the anopheles for malaria or the *Stegomyia callopus* for the hypothetical organism of yellow fever. The work of Ricketts on Rocky Mountain Spotted Fever is also interesting in this connection, in addition to being a work of great merit.

Malaria, of all tropical diseases, is the most widespread, the most disastrous in its effects, and the one concerning which our knowledge was most complete at the beginning of this period. Hence it is that the application of this knowledge in the prevention of the disease has attracted the most attention. It should be noted, however, that the introduction of eosinated methyl azure stain and thick dehemoglobinized smears have facilitated the diagnosis of malaria. Schaudinn's discovery of the parthenogenetic cycle of the macrogametocyte in the blood of the vertebrate host furnishes a long desired explanation of the relapses which so frequently occur in this disease. Craig's more recent work on latent malaria should also be noted.

Much work has been done in various regions on the epidemiology and prophylaxis of malaria. Worthy of special notice are the researches and efforts of "The Society for the Study of Malaria in Italy." Professor Celli, in a report on this work, concludes that the campaign against malaria should include two methods concurrently—the one directed to destroy, or at least render inoffensive, the mosquito which inoculates man with the parasite; the other directed to destroy with specific means and with general means these parasites in the human blood.

The recent excellent articles of Deaderick of Arkansas well present the present state of our knowledge as regards blackwater fever. While the results of investigators in various parts of the world seem to show the relation of malaria and quinin to the disease, the immediate cause of the condition which determines the increased hemolysis remains to be found out. The results of the researches of the medical commission of the United States Army to investigate the cause and mode of transmission of yellow fever are well known. And the application of this knowledge has been successful in the control of many outbreaks of the disease.

The work of E. H. Ross in Egypt, and Craig and Ashburn in the Philippines, would seem to indicate that dengue is dependent on the mosquito for its spread, and, therefore, another trophy is added to the war waged against these insects.

It has been shown that the presence of intestinal parasites has a marked influence on the mortality of other diseases, and the advances with respect to helminths as pathogenic agents are scarcely less notable than those with reference to the protozoa. Of the long list, time permits reference only to ankylostomiasis. This disease has been shown to be of wide distribution in all tropical and subtropical countries and wherever found is of the greatest importance from the economic as well as from the standpoint of public health. New hookworms have been discovered, their mode of infection has been determined, and much has been added to our knowledge of their clinical and pathologic manifestations. The ankylostoma duodenale has been shown to contain a hemolytic substance, and efficient methods of prophylaxis and treatment have been worked out. With all this, however, the work on hookworm disease may be said to have only begun.

This short and imperfect review serves to emphasize the great interest which has been manifested all over the civilized world in the study of tropical diseases during the past decade; to emphasize how vital the thorough study of these diseases is to the progress and art of medicine. There is already abundant cause for praise of the results which have been achieved, but it would seem that they are only evidence of what is to follow.

Without disparagement of the work of every and all nations concerned, we can with pleasure note the prominence of the influence of English thought in this as in other branches of medicine, and may be permitted to contemplate with pardonable pride the triumphs of America in this field.

The philanthropic spirit which moved the United States to engage in war to relieve a down-trodden people from the consequences of despotism was also sufficient to stimulate efforts to overcome a more formidable tyrant; to free these people from disease and pestilence. The establishment of a biologic laboratory in Manila as a part of the government laboratory and the high class of work which has emanated from this laboratory have reflected great credit on American medicine. The record of ten years of sanitation in the Philippines, of the scientific methods by means of which diseases have been combated, reads like a romance and justifies the statement of Musgrave that "America has made Manila one of the cleanest and healthiest and most attractive cities under the flag."

The discoveries with respect to yellow fever by the commission under the auspices of the War Department ranks as the greatest triumph of modern medicine since the discovery of vaccination against smallpox. As regards the triumph of America in the canal zone, it has been said that "of one credit history can not rob the United States. Among much good and evil it must record that it was under the American administration that the knowledge and resources of modern medicine were applied to the hygienic redemption of the once noisome isthmus. Such fruits of labor in this direction have already been gathered that they promise to rival as a worthy monument of American achievement the canal itself." Leigh.

It is proper that we recognize the ability, revere the heroism and extol the genius of those who have brought about these and other triumphs. The names of no greater heroes will be recorded in the annals of American history than the names of Reed, Carrol and Lazear. Carlisle has said that genius is "infinite capacity for taking infinite pains." Measured by this standard the work of Colonel Gorgas in Cuba and Panama must stamp him as a genius whom we are proud to honor.

While we felicitate ourselves over this foreign missionary spirit and rejoice in the inestimable benefits which it has developed, we are led to inquire if the conditions are not such as to offer opportunities and impose obligations to increased activity in the field of home missions? If we consider only the great economic losses, the suffering, deaths, and race deterioration which amebic dysentery, malaria, and uncinariasis visit on this country, there can be but one answer. Unfortunately the vital statistics do not give a proper conception of the prevalence of amebic dysentery in the United States. Its wide endemic occurrence is, however, well known through the writings of Harris, Dock, Jelks, and others. Professor Osler says, "It is the most common variety of dysentery throughout the United States. It is endemic, the cases sometimes increasing to such an extent as to form an epidemic." Boggs states that the records of the Johns Hopkins Hospital show 182 cases in that institution from 1889 to 1908, the vast majority coming from the state of Maryland. He also points out that the large number of cases of abscess of the liver in the records of some southern hospitals would indicate its wide prevalence. The economic importance of amebic dysentery, its chronicity, its resistance to treatment, as well as its tendency to serious complications, furnish a rich opportunity for investigation.

The prevalence of malaria is too well known to require discussion. Attention has often been called to its economic importance to a large section of this country. Woldert has shown that it cost the state of Texas in 1900 in loss from labor alone $533,320. Glenn W. Herrick, some years ago, in writing on the effect of malaria on agriculture, has convincingly shown the enormous losses which the disease entails on the South. More recently Howard, in a bulletin on the economic losses to the people of the United States through insects that carry disease, estimates on a very conservative basis that malaria produces 12,000 deaths and 3,000,000 cases of fever annually. He further states: "Accepting this as a basis and including the loss through death, the cost of medicine, the loss to enterprises in malarious regions through the difficulty of securing competent labor, and other factors, it is safe to place the annual loss to the United States from malarial disease under present conditions at not less than one hundred millions of dollars." To say nothing of the physical suffering, and deaths, the losses from this disease alone make that from hog cholera, Texas cattle fever, and the boll wevill combined look exceedingly small. The above estimate of Howard does not include the retardation to development of certain regions on account of malaria. No region on earth more urgently invites the "triple alliance of the doctor, drainage and agriculture" than the great Mississippi Valley designated by one of its most gifted sons as "the cornucopia of the world." History, ancient and modern, furnish ample evidence of the baneful influence of malaria on mental and physical development.

Through the researches of the United States Public Health and Marine-Hospital Service, of the Porto Rican Commission, as well as of practitioners in the endemic areas, we have learned of the great economic importance of the hookworm disease. According to the report of Surgeon General Wyman, the recent researches of Stiles have shown that 12.6 per cent. of the employés of the cotton mills of the South are affected with uncinariasis; that of this class 13 to 18 per cent. of those of maternity age are in a condition which prevents them from properly nourishing babes; 5.8 to 20 per cent. of the males of possible military age are in a condition which would materially decrease their military efficiency; 48.1 per cent. of the children are suffering from an anemia-producing disease which would naturally inhibit their usual capacity for study. These figures serve to emphasize the truth of the statements of Allen J. Smith, who, writing on this subject in 1904, said, "All through the districts of our southern states infested by the American hookworm there exists a class of persons notorious for their unprogressiveness, lack of ambition, application and effort, thin, sallow, unhealthy look, cadaveric appearance, and uniform poverty in the midst of natural fertility and plenty." He further states: "These families are usually prolific, but with parents of the type mentioned there are bound to arise numerous causes for fatality among the children. Probably many in childhood die from direct and indirect effects of uncinariasis. Of those who live a large, proportion suffering in some degree short of fatality from the same parasite, grow up stunted in mind and incapable of physical effort, without incentive, hopeless, unequal to real exertion, branded as lazy and wearing the mark without care or shame. These pallid, spindle-legged, pot-bellied, and always dirty and unkempt children grown to manhood and womanhood may scarcely hope to breed a stronger race than themselves; and thus, generation after generation, from originally strong and virile progenitors, families recede and eventually die out."

These are but examples of the opportunities afforded in tropical diseases at home. To these may be added the menace from bubonic plague, the ever-constant danger from yellow fever, and the probable endemic existence of other of these diseases which increased knowledge is demonstrating. Our increasing commerce with the tropics and the better facilities for communication with the same must inevitably increase these opportunities.

It follows as a natural corollary that these present and growing opportunities for the study of tropical diseases must impose the obligation of affording better facilities for teaching them and research work in them. If they are of such importance as we have indicated, it would seem that more time should be given to them in the curricula of our medical schools than is at present devoted to them. Even with this, the time has arrived when to keep in the front rank of the armies which are moving on these common enemies to our health and prosperity, the obligation rests on us to follow the examples of England, Germany, France and other countries in the establishment of an institute for the study and teaching of these diseases, Dr. E. N. Tobey, of the Harvard Medical School, has, in recent articles, successfully answered the objections which have been urged against this necessity.

The need for a special institute for the study of tropical diseases is in no sense a reflection on the magnificent work which the Bureau of Public Health and Marine-Hospital Service has done and is doing. The sharp eye which this service keeps on our ports to prevent the entrance of exotic disease, the magnificent service which it has rendered in the suppression of pestilences, the importance which the hygienic laboratory has assumed as a center of research in contagious and infectious diseases, the pioneer work which it has instituted with respect to the study of leprosy amongst other labors, compels us to agree with Seaman when he says that "the United States Public Health and Marine-Hospital Service is the one department of which Americans have most reason to feel justly proud."

The growing sentiment in this country of the obligations of the federal government to the public health is propitious, and this sentiment needs the fostering care of physicians more than any other class. The importance which we to-day assign to tropical diseases in this country demands our best efforts in the extension of the authority of this service and in the securing of appropriations to render it still more efficient.

Let us hope that these opportunities will impel the performance of the duties which they impose.

THE PRESENT STATUS OF STOMATOLOGY

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE SIXTIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1909

EDWARD C. BRIGGS, M.D.
BOSTON

It is my pleasurable duty to address you in welcome to the Sixtieth Annual Session of this Association. Our able and untiring Secretary has prepared the feast, and it promises to make this year's meeting second to none which we have had.

At this time it is in order to look back, with what complacency we may, on the progress in our profession during the past year, and to outline some of the hopes and aspirations for the future.

There are two great incentives to the profession to grow and develop. One is the desire of the true physician to increase his power to prevent or heal suffering—to keep abreast of the world's progress in general. The other, to gain for his specialty that recognition in a social way which will satisfy the hearts of those already in practice and offer to the youth contemplating a life work a profession in the practice of which there shall be nothing incompatible with the highest self-respect.

While new and increased attainments in the first case help to some extent, in the second it is by no means proportionate, and I doubt very much whether, even with all knowledge, with every practitioner a doctor of medicine, we should find our condition improved otherwise than in the direct satisfaction in our hearts over our increased efficiency. Perhaps if we faced the condition squarely and honestly we should more easily and readily find the cure.

I venture to say that we suffer much from the term "dentist" and if we could shake that off, even as the surgeon has shaken off his original appellation of "barber," we could more easily claim the recognition to which our attainments entitle us. And consider our attitude in regard to nostrums and inventions! Here are men practicing a liberal profession constantly exhibiting a selfishness which, like other vices, generally proves a boomerang; instead of gaining in reputation or financial returns, such men too often lose both and do much to lower their profession. We have many bright and shining lights in this dark way, but, alas! the rank and file are constantly bringing on us the judgment that ours is a profession of sordid money-grabbers. Yet have any of our inventors of remedies or instruments who have patented their inventions for the sake of financial returns ever reaped their desired reward? Have they not rather received pitifully unsatisfactory returns and lost forever the opportunity of being enrolled in the list of the benefactors of their profession and of mankind—a list which is a long and glorious one in the other branches of medicine?

But let us turn to the contemplation of the steps which we as stomatologists have been making the past year toward the goal of being perfect physicians to the teeth and their environment. Much progress has been made along the lines of greater appreciation by us, by our fellows in other branches of medicine, and by the public generally, of the part which a perfectly equipped oral cavity plays in the preservation of the general health of the individual.

Fletcher's teachings have received prominence and general acceptance. He has entered on a missionary work in New York which not only improves the physical and moral condition of those whom he teaches, but also brings into greater prominence the importance of the stomatologist in the conservation of health and morality.

Perhaps one of the most notable efforts for the advancement of the profession, both among ourselves and the laity, has been the formation of the Dental Hygiene Council of Massachusetts, which is being followed rapidly by the formation of like societies in other states.

I quote from Dr. Potter, who has ably seconded Dr. Woodbury in the development of the Council. He states the objects of the council to be (a) publication and distribution of literature on oral and dental hygiene; (b) urging the work of examination of school children; (c) giving advice to educators and others as to practical methods of promoting dental hygiene; (d) assisting in the formation of dental dispensaries where dental services can be had at a nominal cost; (e) establishing lists of young practitioners who are willing to work within the means of persons of small wages; (f) calling attention to the way in which the condition of the teeth enter into the problem of the general health and physical development of the community.

They have established a dental hygiene exhibit which has been shown in a number of cities not only in Massachusetts, but in other states, and which has made a deep impression on layman and scientific student alike.

By means of casts, slides, photographs, etc., the council aims to bring before the public and the profession the importance of dental hygiene in preventing disease and building up sound minds in sound bodies.

The bacteriologist has made us familiar with the *Staphylococcus pyogenes*, pneumococcus and spirochete, which flourish so successfully in the unhygienic mouth and breed disease far reaching and destructive in its influence.

The reading of the opsonic index and the vaccine [illegible]ment, both the autogenous and stock vaccine, has [illegible]ed the scope of the stomatologist and bids fair not only to increase his usefulness to his patients, but also his importance as a true physician to the diseases of the oral cavity. The pendulum is swinging away from the point at which all dental troubles were treated mechanically and where the stomatologist was only an operator; and may be will swing too far and we shall hear of a vaccine for every ill, and be advised to throw all instruments into the scrap-heap.

Not long ago I even heard a speaker state that interstitial gingivitis had been cured by vaccine, while the teeth were still covered with scales. I fear this is going pretty fast, but it shows how the germ theory has taken possession of us!

Speaking of interstitial gingivitis, I am minded to make that a text for a short sermon on the cruelty of some obstructionists, both to themselves and to the profession, in opposing, simply for the sake of opposing, the efforts of some to raise our scientific standard. This is shown by the opponents of the term "interstitial gingivitis." They have nothing better to offer, yet, with the perversity of the bucolic, still adhere to the totally unscientific name of Riggs' disease. I am sorry to say that there are many bitter objectors to the term who do not even understand the meaning of the words.

I have heard within the year an eminent educator in our profession jeer at the use of "interstitial" because "it meant the interstices of the teeth, and as the disease was not always between the teeth the term was a misnomer." Let me ask all such obstructionists to look up the definition in their medical dictionaries before they denounce!

Now, there have been few new remedies added to our list, but there are some important applications of old ones. Leary's IKI solution (iodin, 1 part; potassium iodid, 2 parts; water, 100 parts) as an antiseptic for the bacteria of the mouth seems to be a distinct advance. Both ingredients have been used individually and in other connections, but this particular mixture seems a most happy one.

Again, the use of bismuth paste after the manner suggested by Beck proves to be helpful to the stomatologist in the treatment of antrum diseases, alveolar abscesses and the pus pockets of interstitial gingivitis.

It seems to me that more attention should be paid by us to the production of anesthesia, both local and general, for painful operations, such as the preparation of roots for crowns, removal of nodules from tooth roots, and excavations for filling; for more thorough study shows little or no danger in the use of ethyl chlorid in the production of general anesthesia and cocain or eucain, or both combined, in local anesthesia by injection.

The unfavorable cases reported in the use of these agents are now pretty conclusively shown to be due to impure preparation or gross ignorance of fundamental principles on the part of the user.

We should be too intelligent to condemn the use of a drug because some one has had an unfortunate result from the use of an impure preparation or from administering it to a patient already in a critical condition from heart, kidney, or lung diseases, or from the employment of toxic doses when the therapeutic doses have been called for.

Since this address is merely introductory, I have purposely made it very brief, for we have many papers of special scientific import and I know you must be anxious to get to them.

129 Marlboro Street.

ABSTRACT OF DISCUSSION

Dr. George V. I. Brown, Milwaukee: I am glad to hear Dr. Briggs speak of the important advances made by our profession without divorcing us from other advancements in medical science. It is unfortunate that speakers and essayists sometimes refer to the progress we are making as though we were working along distinctly individual lines, quite ignoring the fact that ours is only a division of medical practice that is advancing hand in hand with the other divisions.

Dr. S. G. Jackson, Vineland, N. J.: I am glad that the profession is recognizing the work of Horace Fletcher. Thorough mastication is the essential thing for good teeth, as well as for proper digestion and assimilation.' If we can teach the children this, much will be accomplished for future generations.

Original Articles

THE PHYSIOLOGY OF THE EUSTACHIAN TUBE [*]

EDMUND PRINCE FOWLER, M.D.
NEW YORK CITY

The physiology of the Eustachian tube has been regarded as so well established that I hesitate to relate experiments which will necessitate a different view.

Politzer made the following observations by means of an ear manometer, a small glass tube (from 2 to 3 mm. wide and containing a drop of liquid) fitted into a rubber stopper and the latter hermetically sealed into the external auditory canal. During Valsalva's experiment the fluid rose in the manometer. During Toynbee's experiment, after a slight positive fluctuation during the first stage of swallowing, there was a marked negative fluctuation of the fluid which coincided with the rarification of the air in the nasopharynx. The fluid in the manometer then remained stationary until the Eustachian tube was reopened by another act of swallowing with open nostrils. Sometimes fluctuations in the manometer fluid were noted synchronous with quiet respiration.

In endeavoring to substantiate the above experiments with a manometer similar to Politzer's, it was apparent that the one important fact established was that the Eustachian tube opens during deglutition, but just how the normal pneumatic air balance in the middle ear is maintained under the usually existing conditions was not clearly demonstrated. It seemed to me that the act of swallowing, opening and closing the pharyngeal portion of the Eustachian tube should exert an effect on the air in its tympanic prolongation similar to that which would occur in a piece of rubber tubing when the walls of the latter were released and compressed.

Over one end of a small rubber tube, place a soap-bubble film or a film of saliva to act as a delicate manometer, and apply a small clamp near the other end, or pinch the tubing with the thumb and forefinger. On quickly releasing and reapplying the clamping device, the film will be observed, first quickly to become concave, then at once convex, and finally, to come to rest with a slight outward convexity.

It was practically impossible to obtain accurate information by means of Politzer's manometer, as the movement of the tympanic membrane during deglutition is so slight that the air-changes this movement occasions are masked by the contractions of the muscles about the cartilaginous portion of the external auditory canal, and experiments were often negative or showed the reverse of that which I believed must be true. To overcome these difficulties, I fitted well into the osseous canal a small glass manometer, with a lumen one mm. in diameter, and flanged at the outer end better to accommodate a soap-bubble film, by means of which the changes in air pressure within the device could be detected. Using this instrument, I have been able to obtain during deglutition results exactly similar to those brought out by the rubber-tubing contrivance.

The most delicate manometer is the drum membrane of the patient, and in suitable cases if the light reflex is studied through a magnifying Siegel's speculum the drum membrane may be seen during the normal act of swallowing to depress quickly and to inflate and come to rest in a slightly inflated condition.

During Toynbee's experiment, after deflating and moderately inflating, it is again sucked in and so remains until another act of swallowing opens the tube and allows it to return to its normal position. Theoretically, after the final deflation, there should be a slight inflation, due to closure of the tube, but I have been unable to see this—probably because the drum becomes stretched too tensely to allow it to appear. These phenomena are best observed on thin drum membranes, and on those which contain old perforations obliterated by very thin scar tissue, as the latter is often very sensitive to slight changes in intratympanic air pressure.

It is of great assistance in interpreting movements of the drum membrane to execute the experiments while by means of the hand bulb attached to the speculum the air in the canal is condensed and rarified. On moderate condensation the drum will be pushed inward, and on swallowing no movement will be observed, while on gentle suction the act of deglutition will cause a marked inward flutter of the membrane, followed by an over-return to its former state.

During strong suction or condensation, the drum membrane is too tense to be affected by the slight air changes brought about during deglutition by tubal opening or closing.

By observing the drum membrane, or by using the glass manometer above described, I can not positively state that I have seen fluctuations due to the influence of quiet respiration on the intratympanic air. With Politzer's instrument I have observed movements in the manometer fluid synchronous with respiration, but on substituting the other methods of observation these were not apparent, and I concluded that they must have been caused by the respiratory pulse, especially that in the blood vessels about the cartilaginous portion of the ear canal.

If the foregoing observations are accurate, the act of swallowing should increase the sound of tuning forks heard either by air or by bone conduction. That it does this is proved by the following experiments:

If a tuning fork (preferably C, C_1 or C_2) is vibrating strongly near to and below the nostrils, the act of swallowing will cause a marked increase in the intensity of its tone to be perceived in both ears. This increase lasts only during the culmination of the first part of deglutition, or, in other words, while the tubes are held open by the contractions of the tensor and levator palati muscles.

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[*] Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Until recently I was under the delusion that I had originated this experiment, but I find that before I was born Politzer[1] discovered the same phenomena and stated that the experiment could be used in certain cases for diagnosing tubal and middle-ear obstructions.

I have found the experiment useful in many cases, and especially if a double auscultation tube is used to connect each ear of the patient with an ear of the examiner, as by this method the latter is able to hear and compare changes in the intensity of the fork's note during deglutition, and so eliminate errors due to the patient's inability to recognize correctly changes in musical notes.

Politzer states that the examiner can occasionally hear the increase in the sound of the tuning fork during the experiment only in patients with healed suppurations, with unhealed perforations, or with cicatrices in the latter, or with cicatrices stretched before the tympanic orifice of the tube. In normal ears I have seldom failed to hear a distinct increase in the sound during swallowing, and in individuals with blocked tubes the increase is almost invariably heard after the physiologic function has been re-established.

This increase in sound perception is due almost wholly to the opening of the Eustachian tube during deglutition, and it may be well elicited without the act of swallowing by simply contracting and relaxing the muscles which act as tubal openers. If the nose is closed during this experiment, an increase in sound is heard during tubal opening, but less intensely than with open nostrils, while if the nose is closed and the fork is held before the open mouth a more marked accentuation in sound occurs. The fork is heard best if held horizontally beneath the nostrils with one prong presenting near its free extremity and by its outer side. If the fork is held before the nostrils and if at the instant when its note ceases to be heard by the patient he swallows, the sound will again become audible to him. This method of eliciting the test is often most serviceable.

The following experiments and results were observed: Opening the normal Eustachian tube by deglutition or by contraction of the tubal muscles causes increased perception for the sound of the lower tuning forks held before the nostrils as follows: With the ears open a marked increase was noted; with the ears closed by the finger (using care not to compress air in meatus) increase was noted; with one ear closed by the finger increase was greater in the other ear; with both ears closed by author's ear massage cups, there was marked increase; with one ear closed by author's ear massage cup, increase was more in cup ear; with both ears closed by author's ear massage cups (air in one, rarified or compressed), increase was noted only in other ear; with both ears closed by author's ear massage cups, note is heard to increase more than with the ears uncovered, unless extreme quiet can be obtained.

Opening the tubes immediately after autoinflation by Valsalva's method brings about a distinct increase in the sound perception.

Opening the tubes after autodeflation by Toynbee's method brings about a still greater increase.

If one tube is blocked, the increase is noted during swallowing regularly on the patent side.

If a long rubber tube is slipped over the shank of the fork, and its distal end placed in the nostril, results similar to those described may be elicited during tubal opening, but if the tubing is inserted into the external auditory meatus no change in intensity occurs. So much for the increase in sound during tubal opening as heard by air conduction through the Eustachian tube.

By bone (craniotympanic) conduction I obtained the following results:

A vibrating tuning fork (C, C_1, C_2) is placed in firm contact with the scalp, preferably over the lambda. During deglutition or tubal opening a marked increase in the sound will be noted by the subject. If the air pressure in one meatus is considerably increased or diminished, the increase in sound will be noted only in the other ear. If both ears are covered by the author's ear cups, and care is used not to compress or rarify the air in the canal, the increase in sound of the vertex fork during deglutition will appear faintly or not at all. If one ear is covered by the cup, the sound of the vertex fork will be lateralized in the covered ear, and on swallowing this increase by lateralization will so mask the experiment that it is difficult to detect the faint increase which should appear more marked in the uncovered ear.

If a fork is vibrating on the vertex, Valsalva's experiment will cause a marked increase in sound to be perceived. If Valsalva's experiment is very gently executed and the pressure in the nasopharynx is increased until only one tube opens, the sound of the fork will be clearly lateralized to the side of the open tube.

If a fork is vibrating on the vertex, Valsalva's experiment appears to bring about increased perception only to the side inflated, and this increased perception persists as long as the tube is held open by the raised air pressure in the nasopharynx.

Gentle double autoinflation will increase the perception of vertex forks in both ears, and that this is not due wholly to tubal opening may be proved by placing the fork on the head (preferably on the mastoid fossa), quickly removing it, executing gentle inflation, replacing the fork, and then allowing the middle ear to deflate. The fork's note will be heard louder on its second placement and less distinctly after the middle ears have recovered their normal pneumatic balance.

If more than the faintest inflations are used, the results will be exactly opposite, owing to the influence of the increased air pressure in the middle ear.

If in normal ears, at the moment when the sound of the vertex fork ceases to be heard, swallowing is executed, the sound of the fork will reappear to the ears in the order of the opening of their tubes.

If the ears are closed during these experiments, the increases in sound are not easily detected, probably because this closure interferes with the slight further increase in bone conduction brought about by the movement of the drum membrane during tubal and middle-ear ventilation. If this were not the case, the increase in sound should appear in a similar manner to that occurring during swallowing with the ears closed and a fork vibrating before the nostrils, and I, therefore, bring these bone-conduction experiments forward as further proof of the movement of the drum membrane during deglutition and as tests that may be useful for diagnosis in selected cases.

The increase in the sound of vertex forks during tubal opening is brought about by two main factors—one being the opening of the communication between the middle ear and nasopharynx, permitting increased perception by air conduction from the latter; the other is the increased bone conduction due to slight changes, mainly in the drum membrane. That this is a factor I believe I demonstrated by applying the fork before and after Valsalva's and the other experiments, as the note under the different conditions could be compared without the interference of sound changes due to Eustachian tube opening.

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[1] Diseases of the Ear, p. 132.

Although I can bring forward but slight evidence to prove that during tubal opening there is a contraction of the tensor tympani muscle, I will present this evidence for discussion. If, while one of the lower forks is vibrating on the vertex, the tubal muscles are voluntarily contracted just short of opening the tube (this can be managed with practice), it will be noticed that during the muscular contraction a slight increase in sound sometimes occurs. This increase in sound is of a different character from that noted during tubal opening while a fork is vibrating on the vertex or before the nose, and gives the impression that bone conduction has been slightly increased. The middle-ear structures which would be apt to be affected during the experiment are the tensor tympani muscle and the parts to which it is attached, especially the malleus and drum membrane. If the ears are closed during the experiment, no increase in sound can be detected, nor does this occur if the experiment is executed with the fork vibrating before the open nostrils.

The intimate nervous connections through the otic ganglion of the nerve to the tensor tympani, and the nerves innervating the muscles attached to the Eustachian tube, at least make it seem possible that during contraction of the latter the former also may be brought into action. This does occur during the act of yawning, as brought out by Politzer and confirmed by Helmholtz.

The otic ganglion is in relation internally with the cartilaginous Eustachian tube and the origin of the tensor palati muscle. It communicates with the glossopharyngeal and seventh nerves through the small superficial petrosal nerve continued from the tympanic plexus, and through this communication it probably receives its sensory root from the glossopharyngeal, and its motor root from the facial.

Its branches of distribution include a filament to the tensor tympani and one to the tensor palati. The fibers of these nerves are mainly derived from the nerve to the internal pterygoid muscle.[2]

Politzer[3] quotes L. Meyer to the effect that the anterior border of the tensor tympani is sometimes in close relation with the tensor veli palati, either directly or by fibrous tissue. The cracking noises heard in the ears during deglutition and produced by many people by voluntary effort are caused principally by the contractions of the abductor tubæ muscles, but the noises may be caused also by contractions of the tensor tympani.[3]

Contractions of certain muscles of the face, especially the orbicularis palpebrarum, can produce simultaneous contractions of the stapedius, as first observed by Lucæ, and while during these contractions the perception by air conduction for the lower and middle tones of the tuning forks is lessened or discontinued, the reverse holds good if these forks (especially C_2) are heard by bone conduction, and the tones seem markedly intensified. In other words, bone conduction is increased. The note is also raised the fraction of a tone.[4]

I mention these facts, as they are similar to, though more marked than those noted during contractions of the tubal muscles alone.

It is conceivable that during tubal opening the tensor tympani should contract to prevent traumatism to the conducting mechanism from violent inflations through the tube, to make tubal opening less difficult, and to prevent during the opening of the tube disturbances in sound perception due to movement of the drum membrane. As its subsequent relaxation follows the increase in intratympanic air pressure due to tubal closure, this increase in air pressure will not cause so much disturbance as would be the case if the drum membrane were immovably anchored during the ventilating process. In other words, the slight contraction of the tensor tympani protects and tends to prevent disturbances in the conducting mechanism during ventilation of the middle ear.[5]

I hold that the tensor tympani may contract during contraction of the tubal muscles, and, though I arrive at this conclusion mainly by exclusion, I hope it may perchance stimulate further research along the line indicated, to the end that from more accurate knowledge may spring beneficial practices.

It appears that the middle ear is easily ventilated under normal conditions, because the walls of the Eustachian tube, *to a greater or less extent, lie in just sufficient contact to enable the ordinary act of swallowing to bring about their separation, and on its completion to allow their collapse to close the tube and re-establish the faintly positive air pressure which I have shown tends to exist in the tympanic cavity.*

It is easily demonstrable that with the slightest rarification of the air in the middle ear more effort will be required to inflate the tube and middle ear than if there is an increase in the tympanic air tension.

Many individuals with chronic retraction of the drum membrane require but a slight increase in pressure in the nasopharynx to enable them during the act of swallowing to ventilate the ears adequately, and it seems to me that the usual method of treatment is wrong, because it violently inflates the middle ear and at comparatively infrequent intervals, and, therefore, does not fully meet the conditions presenting.

To provide a means for home treatment in these cases, I devised a method based on the following experiment. At first sight, this may appear to be but a modification or combination of Valsalva's and Toynbee's experiments, but, as its performance is different from either, and its result the opposite to the latter, I hold that the experiment is distinct. I mention it in this paper, because it is a modification of Nature's method of inflating the Eustachian tube and middle ear.

While the nostrils are tightly closed by pinching them together with the thumb and forefinger as near their free borders as is possible, gently *increase the air pressure in the nose and nasopharynx* by attempting to expire wholly through the nose, and, while *maintaining this increased pressure, swallow*. The result will be the inflation of both middle ears.

This is brought about by the opening of the tubes during the increased nasopharyngeal air pressure, due to the patient's efforts and to the ascent of the soft palate. During the second stage of deglutition a negative pressure is avoided, because the primary increase in pressure and the bulging of the elastic lateral walls of the nose supply a sufficient amount of air reserve to enable the descent of the soft palate to occur without creating a partial vacuum in the nasopharynx.

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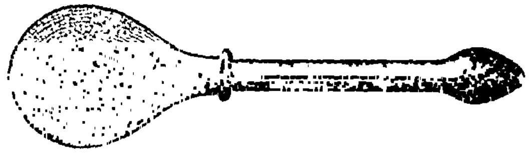
[2] Gray's Anatomy, 1896, p. 808.

[3] Diseases of the Ear, p. 33.

[4] To bring out these results the fork must be vibrating strongly during the experiment.

[5] Several important considerations naturally occur to one in connection with the above, but their discussion would lead me into a discourse too lengthy to be included in this paper.

Until familiar with this method of inflation it is well to take a full breath preliminary to its performance. It would be unwise to prescribe this treatment for some patients, as it is subject to abuse and harm might result from faulty execution.



The author's automatic ear inflator.

To avoid all danger, I have used an instrument, here illustrated, so constructed that, no matter how forcibly the patient blows into it, the pressure in the instrument, and, therefore, in the nose during treatment, can not exceed a certain number of millimeters of mercury—the latter to be determined by the surgeon when prescribing the device. It consists of a rubber balloon attached to a nosepiece. If one nostril is closed and the nosepiece is fitted tightly into the other nostril, the patient may inflate the balloon by blowing into it through the nose. In the size I usually employ, a pressure of about 10 mm. of mercury is required to inflate the air bag, and, no matter how much it is distended, the pressure within it will remain between 8 and 10 mm. of mercury. After inflating the balloon, the patient, without removing the nosepiece or releasing the opposite nostril, swallows, and repeats this act several times, or until the balloon has completely collapsed. At every deglutition both middle ears will be inflated. During deflation the air pressure in the balloon remains at about 6 or 8 mm. of mercury until the bag is deflated, when the pressure drops suddenly to zero.

So far as I can see, this method is simple, safe and efficient, and enables patients to obtain every-day treatment which can not but benefit the diseased conditions it is adapted to correct.

I have made many modifications of this instrument, but the one described is the simplest and cheapest. The balloon may be made in various sizes and strengths, depending on the amount of air and the pressures it is desired to obtain.

The experiments here detailed were devised by me and executed first on myself and subsequently on many other individuals, and with one or two exceptions were confirmed by competent observers. To carry out the more delicate experiments correctly much practice and patience are required.

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ABSTRACT OF DISCUSSION

Dr. J. Holinger, Chicago: The instrument Dr. Fowler shows is of decided advantage, because of its psychic effect, if for no other reason; so long as the patient has something which requires some special preparation it is an inducement for him to carry out directions more accurately. I did not hear Dr. Fowler mention the name of Professor Bezold, who has done so much along this line. A point which I think is often overlooked in affections of the tube is the difference in size of the cells in the mastoid process. If it is true that these cells have the function of a reserve air tank, it is evident that the difference in size of this tank can not be without influence on the ventilation and function of the middle ear. It seems to me that together with the adenoids this smallness of the reserve air tank in children explains the frequency of affection of the tubes much better. In adults, too, after destruction of the cells by mastoid operation, I have often seen affections of the Eustachian tubes which necessitated treatment extending over many weeks.

Dr. George E. Shambaugh, Chicago: I do not wish to pass unfavorable criticism on a piece of work on which so much time and patience has been spent as this paper by Dr. Fowler. I should like to suggest, however, that the one object in writing a paper is to convince other people of conclusions which our work has led us to believe are correct. It is a point that we should always keep in mind in preparing a paper. An article that covers so much as this paper by Dr. Fowler is much less likely to accomplish this object than a paper in which not so much is attempted.

Dr. Edmund P. Fowler, New York: Probably Dr. Shambaugh is right in saying that I have tried to give in one paper too many experiments pertaining to the Eustachian tube, and it would have been wiser perhaps to have presented one phase of the matter at a time. My object was to obtain criticisms from men who had investigated the experiments before the meeting, to the end that my work could be substantiated. The little instrument I have shown I have used in the form of a penny whistle for some time with apparently happy results. We must be cautious in our opinion because every new treatment is apt to show remarkable results at first, but I think the method outlined has benefited a great many people and especially those who could not spare the time for regular treatment. This treatment, so far as I can see, is harmless and enables patients to maintain the drum membrane in a better condition than if they carried out no treatment at home.

SYMPTOMS OF INTRACRANIAL COMPLICATIONS OF PURULENT OTITIS *

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The subject of intracranial lesions arising from suppurative otitis has occupied the foreground in otologic discussions for many years. The brilliant achievements of Macewen in this difficult surgery were already well known in the 80's and his classical work "Pyogenic Diseases of the Brain and Spinal Cord," published in 1893, stands, with few parallels in surgical literature, as a monument to his genius.

The impetus exerted by this publication in extending the otologist's field has been tremendous, and has resulted in the cure of hundreds of cases which previously had been considered hopeless.

Added knowledge of the function of certain areas in the brain, improved methods of study of the blood, and cerebrospinal fluid, and accurate data regarding the static equilibrium, have all contributed in recent years, to an earlier and more certain diagnosis of the character and localization of intracranial lesions.

Certain clinical data have now come to be recognized as definite proof of lesions which formerly were considered doubtful. Nevertheless it must be admitted that, with all the evidence which can be accumulated, we are too often in grave doubt as to the nature or

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location of a lesion which presents symptoms serious enough to force us into an exploratory operation. Under these circumstances one can not escape a feeling bordering on helplessness in the presence of such a desperate surgical condition.

In view of the numerous well-known works and monographs on this subject, it would be presumptuous on my part to attempt to do any more than bring up for consideration, the more important views of others, presenting them in the way they have been most useful in my own experience.

It is not within the province of this paper to discuss the pathology of extension of suppuration of the middle ear to the endocranial structures. Nevertheless it is important, to an understanding of the symptoms which arise, that the methods of invasion should be borne in mind.

Infection may take place on the one hand directly through dehiscences in the bone, to the middle or posterior fossa either the result of erosion, or developmental defects, or occasionally, from operative work: on the other hand, the infection may travel through the lymph sheath of blood vessels, or nerves, or in the blood-current, from the tympanum, mastoid antrum, or mastoid cells, to the duramater of either fossa, or to the sigmoid sinus. Even further you are aware that suppurative processes, having invaded the labyrinth, are in direct communication, through the ductus endolymphaticus, with a pocket between two layers of the dura; and, through the aqueductus vestibuli, directly with the subarachnoid space.

Naturally, symptoms of endocranial involvement must vary greatly with the method of invasion and the virulence of the organism causing it.

Endocranial lesions resulting from acute suppurative otitis are likely to be very rapid, from a most virulent infection, and very general in this invasion, owing to the fact that the infection has entered the cranium through lymph sheaths of the blood vessels, or through the vessels themselves, rather than by erosion, or disease of the bone, as in chronic cases; and, as a result of the rapidity of the invasion, there has been no opportunity for resisting barriers to be thrown out. Symptoms of endocranial envolvement of acute suppurative otitis, then, are more likely to be those of acute leptomeningitis or sinus thrombosis than of temporosphenoidal or cerebellar abscess.

On the other hand, when intracranial invasion has resulted from chronic purulent otitis, the infection being slow and milder in character, due to necrosis and erosion of the inner plate, the early symptoms are likely to be those of a very local involvement of the dura (external pachymeningitis) with the production of an extradural abscess.

Should this persist a fibrinous exudate may form on the internal surface of the dura, cementing it to the subjacent arachnoid and pia mater, thus preventing a diffuse leptomeningitis, as happens in the acute cases from the rapidity of the invasion. This barrier may also prevent further extension into the brain, but, continuing, a necrosis of the cortex may take place leading to the formation of an intradural abscess. Still continuing, the suppuration may extend to the deeper parts with the formation of a cerebral, or cerebellar abscess, according to the position of the primary invasion.

On the other hand, deep-seated abscesses may form without this progressive involvement of the different membranes, and the cortical substance, owing to thrombosis of small veins running in from the surface. In a similar manner thrombosis of the sigmoid sinus or jugular bulb may take place without the previous formation of a perisinus abscess.

In a general way, then, it may be said that endocranial involvement of acute purulent otitis is likely to be rapid, diffuse, and accompanied by violent systemic disturbances, in addition to the local symptoms; whereas the involvement from chronic purulent otitis is likely to be slow, distinctly localized, with slight systemic disturbances in the early stages, owing to the fact that its progress has been combated at every step by Nature's protective barriers. The final breaking down of these protective barriers, in the later stages, gives rise to violent symptoms of systemic disturbance, similar to those which occur early, in the acute cases. The lesions to be considered are:

A. Inflammation of the meninges: (1) External pachymeningitis, or extradural abscess; (2) internal pachymeningitis or intradural abscess; (3) diffuse leptomeningitis; (4) serous meningitis.

B. Inflammation of the brain: (1) Encephalitis; (a) circumscribed; (b) diffuse. (2) Brain abscess: (a) temporosphenoidal; (b) cerebellar.

C. Inflammation of the sinuses of the dura: (a) lateral: jugular bulb, jugular vein; (b) superior and inferior petrosals: cavernous.

D. Erosion of internal carotid artery.

In considering any suppurative intracranial lesion it is well to bear in mind the fact that many of the symptoms arising from it are purely mechanical in origin, while others are the result of the toxemia produced by the infection.

Any meningeal inflammation has three characteristic symptoms; *headache*, which is severe and persistent; *vomiting*, which takes place without nausea and at unexpected times; *constipation*, without abdominal distention or pain, which can not be relieved by cathartics or purgatives. These symptoms are due largely to an alteration of adjustment of intracranial tension, although absorption of toxins has some part in them.

The accompanying symptoms, of mechanical origin —due to pressure of the effusion on the cortical centers beneath—vary according to the location, extent, and nature of the inflammation, together with the degree of irritability of the patient. Such symptoms have been classified by Ballance as follows:

1. *Psychic symptoms:* Irritability, change of disposition.
2. *Motor symptoms:* Convulsions, Kernig's sign, exaggeration of reflexes.
3. *Sensory symptoms:* Photophobia, hyperesthesia.
4. *Sympathetic vasomotor disturbances: Tache cérébrale.*
5. Finally, *symptoms due to exhaustion and death of nerve cells:* Paralyses, anesthesia, coma.

Fever, anorexia and emaciation, the other accompanying symptoms, are due to the general infection rather than to the meningeal involvement, and may be very pronounced or very mild, depending on the virulence of the organism producing them.

In a case of purulent otitis, or mastoiditis, acute or chronic, either before or after operation, the occurrence of severe and persistent headache; repeated vomiting, without nausea; and obstinate constipation, accompanied by fever, together with one or many of the detailed symptoms of cortical irritation, would point unmistakably to meningitis.

The problem then presented would be to determine whether the inflammation was of a serous, or purulent, or tuberculous type; whether localized or diffuse; whether associated with brain abscess, encephalitis, or sinus thrombosis.

Much light has been thrown on these questions by examination of the cerebrospinal fluid obtained by lumbar puncture. In *diffuse purulent leptomeningitis*, the fluid is under high pressure, opaque, and contains large numbers of leucocytes and abundant bacteria. In serous meningitis, it is under high pressure, contains very few leucocytes, and no bacteria. In tuberculous meningitis it is under very high pressure, and contains tubercle bacilli. At the Babies' Hospital it is not unusual to draw off 140 to 150 c.c. of fluid. In 76 cases of tuberculous meningitis the bacillus was found 74 times in the cerebrospinal fluid. In acute leptomeningitis from 30 to 40 c.c. of fluid are withdrawn, and the infective organism is always found. Diffuse purulent leptomeningitis which has an acute onset, and rapid course; while tuberculous meningitis has an insidious onset, a slower course, and a period of remission. Acute basal meningitis has a slower course than diffuse purulent leptomeningitis. It occurs in infants up to one year of age. Tuberculous meningitis occurs from 2 to 7 years, and purulent leptomeningitis at any age.

Optic neuritis is an early symptom in leptomeningitis and a late one in tuberculous meningitis. Blood counts show a high leucocytosis (30,000 to 40,000) and high polymorphonuclear count (75 to 90 per cent.) in diffuse leptomeningitis, while in tuberculous meningitis, it is likely to show a low leucocytosis (10,000 to 15,000) and a low polymorphonuclear count (60 to 70 per cent.) Meara has reported 37 cases in which 81 per cent. showed a leucocytosis of over 13,000, ranging as high as 38,000 in clinically uncomplicated cases. It is evident from this that the blood count is not as valuable a differential factor as microscopic examination of the cerebrospinal fluid for the tubercle bacillus.

EXTRADURAL ABSCESS, INTRADURAL ABSCESS, CEREBRAL ABSCESS, CEREBELLAR ABSCESS

The symptoms arising from localized collections of pus within the cranium, like those from meningeal inflammation, are best appreciated when considered from the points of view of (a) the systemic disturbance due to the toxemia; (b) the mechanical disturbances resulting from increased intracranial tension; and (c) those resulting from pressure on or destruction of definite areas of the brain.

Thus, the mere presence of pus, depending on the virulence of the organism producing it, and the amount of poison taken into the circulation, might produce moderate or high temperature, chills and vomiting. The mechanical pressure might alter the intracranial tension sufficiently to cause slow cerebration, slowness of pulse, vomiting of a cerebral type (at unexpected intervals, and without nausea), and obstinate constipation. Pressure on or destruction of centers in the motor area might cause convulsions, on the one hand, or paralysis on the other; the same action in other areas might cause a perversion or loss of certain special senses. Thus it frequently happens that large collections of pus may at times take place extradurally, or intradurally, or in an area of the brain not occupied by important centers or tracts, and, being well walled off, may remain for long periods without giving rise to any characteristic symptoms. Such a collection of pus is not infrequently encountered during the course of a mastoid operation, the symptoms, previous to operation, having been so slight that the abscess was unsuspected.

In other cases, the suspicion of an epidural abscess or intradural abscess with connecting fistula is aroused by the unusual and persistent discharge of a quantity of pus from the tympanum which seems too large to have come from the middle ear and mastoid cells.

Many cases, however, in which there is no fistulous outlet, present characteristic symptoms. High fever, definitely localized pain and tenderness (often far back in the region of the mastoid emissary vein) and stiffness of the neck, are indications of extradural pus under tension. Further symptoms of intracranial pressure may be present from the presence of extradural abscess only, and all or a part of the graver symptoms of leptomeningitis, meningitis or brain abscess may appear.

It has frequently happened that graver symptoms have cleared up after the evacuation of an epidural collection of pus. There is no certainty from the symptoms, however, that such a case is not accompanied by an intradural abscess, or a serous or purulent leptomeningitis, or brain abscess, or sinus thrombosis. In such cases, lumbar puncture, and a blood count are of value in differentiation, in the manner pointed out.

Unless a brain abscess has actually destroyed important areas, or is large enough to interfere with their function, by compression, the location can only be conjectured from attending circumstances. It must be borne in mind that even a large abscess may lie in certain parts, without giving rise to localizing symptoms, owing to the fact that the space for the pus has been made by actual destruction of brain tissue. The abscess formed by the disintegrated brain substance occupies the same space, and therefore gives no evidence of its presence by pressure symptoms. Such accumulations have often become encapsulated and remained for years without sufficient symptoms to bring them to the attention of a surgeon. So-called latent abscess, however, is latent only in the sense that no violent symptoms are present, and careful examination of pulse, temperature, ocular fundi, the functional power of groups of muscles, reflexes, static equilibrium, etc., would have brought to light sufficient evidence, in many of these cases for a diagnosis.

Remembering that brain abscess is a disease of an organ of most complex functions; that it is secondary to many serious conditions which themselves present a variety of symptoms which might be due either to the primary disease, or some other complication; that wide variations in the virulence of the invasion are possible; it is easy to understand that the clinical picture will be a variable one.

Ballance adopts the five types of clinical evolution described by Brissaud and Soques:

1. *A subacute evolution*, in which three stages are evident: (a) The initial *stage of septic infection* characterized by headache, vomiting and fever, lasting 4 or 5 days; (b) the second *stage of remission* in which there is a sudden or gradual abatement of the active symptoms; this period of calm may run over a very long course; (c) the third, or *paralytic stage*, comes on suddenly with or without a convulsion. Coma and death may ensue in a few hours, from rupture of the abscess or, there may be recovery from the apoplectic seizure, followed by symptoms of rapid extension.

2. *The evolution with severe general infection* which is rapidly fatal. High fever with acute delirium are prominent symptoms, marking the more characteristic symptoms of brain abscess. This is usually mistaken for a malignant form of some specific fever unless other conditions have previously pointed to possible brain abscess.

3. *Evolution with complete latency* until the final attack of coma: In this variety, sudden death occurs without previous suspicion of brain abscess until revealed at the autopsy. It is in this "latent stage" that the suggestion was made that some symptoms might have been found if carefully sought after.

4. In the fourth type the *evolution is just like that of a brain tumor*. Abscess produced by infection of low virulence, and symptoms are similar to a tumor of the same size in the same region.

5. The fifth type of evolution is *the remittent type:* "Here the clinical evolution is in two acts, separated by an *entr'acte* of greater or less duration. The first act is marked sometimes by an attack of mania, sometimes by acute delirium. Then all quiets down and the patient seems cured. But after a few weeks, a few months, or even a year, follows the second act, which is commonly quickly fatal."

It is perfectly evident that the array of symptoms of suppuration; local headache, tenderness on percussion, local increase in temperature, etc., while they have some bearing on the location of the abscess, are not characteristic of any particular type of collection of pus. One can not say whether it is extradural, intradural, or in the brain substance. So, too, the symptoms of pressure, headache, dizziness, vomiting, loss of memory, delirium, slow pulse, optic neuritis, change in size of pupils, apathy, somnolence, etc., while indicative of intracranial lesion, are not characteristic of any particular type or location. Localizing symptoms when present are frequently most definite in pointing out the position of an abscess. Lack of time will prevent more than a brief allusion to some of the more important of these.

Ballance calls attention to the following facts:

1. The cortical center for hearing may be in part or wholly involved, causing tinnitus, hyperacusia, or absolute deafness of the opposite (healthy) ear.

2. The cortical centers for taste and smell may be affected. Alteration or suppression of the sense of smell may occur in abscess, involving the anterior extremity of the temporosphenoidal lobe.

3. Sensory aphasia often occurs in abscess of the left temporosphenoidal lobe in consequence of the cortical centers for the mechanism of speech being on the left side of the brain. The auditory word center and the visual word center are the ones involved in temporosphenoidal abscess. A temporosphenoidal abscess on the left side is therefore commonly more easy to recognize than on the right.

4. Paralysis of the opposite side of the body may be of cortical or internal capsule type. The march of the paralysis is different in the two cases. This paralysis is a frequent occurrence from pressure on the posterior end of the internal capsule, and may be associated, as might be expected, with hemianesthesia.

5. Paralysis of the third nerve on the side of the abscess. This is important. The paralysis is rarely complete. A stabile pupil on the side of the suspected abscess clinches the diagnosis.

6. Paralysis of the "naming center." Certain clinical and pathologic observations point to the conclusion that the nervous mechanism by which the ideas of objects are correlated with their names is located in the left temporosphenoidal lobe.

Few of the early symptoms of cerebellar abscess recorded by various writers can be considered as pathognomonic of that condition alone, since they are so frequently found in other intracranial lesions. In later stages, when the abscess is large, or meningitis of the cerebellar fossa has developed, pressure symptoms appear which point toward that region. Yawning, slow opening and shutting of the mouth, and rigidity of the masseters have been frequently observed. Optic neuritis, while not characteristic, may come on early and be very marked. Pressure on the medulla at a low level produces a brachiocervical paralysis on the same side. If pressure were exerted on the pons on the same side as the abscess, a crossed paralysis would result; pressure on both sides of medulla and pons would produce a bilateral paralysis.

A number of cases have been recorded in which pressure on the medullary respiratory center has been so marked that respiration ceased while the heart continued to beat. I have seen two such cases in which artificial respiration prolonged life for hours. Evacuation of the abscess in such a case might be followed by restoration of the function of the respiratory center, and recovery.

Two symptoms which may appear early are of great significance, viz: rotatory nystagmus, and cerebellar ataxia. The disturbances of equilibrium may not be differentiated from those arising from suppurative labyrinthitis, but Neumann has pointed out that there is a marked distinction in the nystagmus. The nystagmus from progressive labyrinthitis grows weaker as the disease progresses and finally disappears, while that from a cerebellar lesion increases as the disease progresses and reaches a degree never attained in labyrinthitis.

In addition to this, a point of great value appears from the fact that, in a case in which at first the nystagmus was more pronounced when the eyes were turned toward the well side, if the phenomenon later were suddenly reversed a diagnosis of cerebellar lesion could be made with certainty, and a labyrinthine cause excluded.

INFECTIVE THROMBOSIS OF THE SIGMOID SINUS; JUGULAR BULB; JUGULAR VEIN

As has been pointed out, an infective thrombus may occur in the sigmoid or jugular bulb by direct infection through disease of the intervening bone cells, and lining membrane, or by thrombosis of small vessels within the tympanum or mastoid process which lead directly into the sinus or bulb.

The first type is more likely to occur in chronic or subacute purulent otitis, the second from acute purulent otitis, of a virulent character.

Naturally, the chronic cases are more likely to be associated with other intracranial lesions—epidural abscess; cerebral or cerebellar abscess; encephalitis, or meningitis—which would increase the difficulty of diagnosis.

In a typical case without other cerebral complications the symptoms are very characteristic. A chilly sensation or distinct rigor, lasting for a few minutes, is followed by a rapid rise in temperature to 104 or 106 F. The pulse is small and rapid; the facial expression is anxious; there is intense local pain, there is complete anorexia, great thirst, and sometimes frequent vomiting. The tongue is thickly coated, and the breath has the characteristic fetid odor of sepsis. The patient is perfectly rational, perhaps somewhat irritable. The rapid rise in temperature is succeeded by almost as rapid a fall to normal, or often subnormal, accompanied by profuse sweating and prostration. According to the virulence of the infection, this is repeated in a few hours, or possibly not for a day or two. Irregularity has seemed to me to be a strong diagnostic sign in contradistinction to malarial or tuberculous conditions, though at times there has been a diurnal vacillation from the first. Usually the chills and fever, followed by the sudden remissions, appear at increasingly shorter intervals, with more marked rigors and wider variations in temperature. Death may occur in a few days from acute septicemia, the patient being perfectly rational up to the last minute.

Left alone, however, signs of metastatic processes in the lungs usually manifest themselves within a week or ten days. Pain in one lung is followed within twenty-four hours by rapid, superficial breathing, accompanied by cough and expectoration of rusty sputum. The temperature may remain persistently high and death may supervene from septic pneumonia, or gangrene of the lungs may take place and death occur at a much later period from pyemia. Should this occur, the constipation, which has usually been present in the first stages, will have given place to a foul diarrhea. Metastatic abscesses in the joints are likely also to appear in the cases which assume the pyemic character.

A certain number of cases will assume a typhoid character very early: there will be no wide vacillations in temperature, and no chills, except possibly at the very beginning. In such cases the mentality is not clear as in the first type. Diarrhea, abdominal pain, and meteorism are present, and skin is likely to be mottled by a dull red rash. The presence of otitis or mastoiditis may be of great value in determining a diagnosis. In such a case, an absent Widal reaction, high leucocytosis and polymorphonuclear count; and, presence of streptococcemia would be of great value differentially.

Then there is a class of cases in which symptoms of meningitis are present early, in connection with the signs of infective thrombosis. Rigors are unusual in the early stages, and the temperature is persistently high. Many of the pressure symptoms and symptoms of cortical irritation of meningeal inflammation are present; tonic and clonic spasms of groups of muscles; squint; early optic neuritis; etc.—in fact the symptoms of meningitis may entirely mask the involvement of the sinus until metastatic processes appear. Early coma, and death, however, are most likely to supervene.

All these types are easily recognizable, but there are many cases in which the early symptoms are not so typical. The first signs of infective thrombosis may be moderate vacillations in temperature, without chills and without prostating sweats. Or in a less virulent case the temperature at first may not show much vacillation, remaining moderately high for a few days without other indications.

On the other hand, wide vacillations in temperature may be present, in infants, without the presence of infective sinus thrombosis. At the Babies Hospital, I have repeatedly observed infants who had influenza or bronchopneumonia, in which vacillations of from six to eight degrees took place for many days; in one case for weeks. The fact that such vacillations took place in those who did not have discharging ears, as well as in those who did, deterred me from investigating the sinuses and jugular bulbs in those with the purulent ears. It is gratifying to report that these children did not die of infective bulb thrombosis. In one child, with very marked purulent discharge from both ears, the vacillations were so very wide that, in the absence of pulmonary signs, I was tempted to perform an exploratory operation. The patient finally died, and I then had the opportunity of investigating the sinuses and jugular bulbs. They were both perfectly healthy.

It seems, therefore, that there are a certain number of cases in which an early diagnosis is very difficult if not impossible. It is possible that increased knowledge from examination of the blood may enable us to make a positive diagnosis in the future at an earlier moment than now. With certain doubtful clinical symptoms present a blood culture showing the presence of streptococci would lead the physician to make a diagnosis of probable infective sinus thrombosis, providing there was no other evident cause for the streptococcemia. So, too, a very high or low leucocytosis, with a high polymorphonuclear percentage, taken together with other symptoms, even though not typical, might lead to a diagnosis of septic thrombosis.

It seems unnecessary for me to discuss symptoms of involvement of other sinuses since they are extensions of infection from the sigmoid, except as they give additional symptoms.

Involvement of the jugular vein may give rise to tenderness along its course, and even to a cord-like feeling, so it is said, although I have never observed it.

Infective thrombosis of the cavernous sinus occurs from suppurative otitis only secondary to that of the superior or inferior petrosal sinuses. In addition to the symptoms of septic poisoning, thrombosis of the petrosals is likely to cause epistaxis, swelling of the veins over the temple, and thrombosis of the retinal veins.

Extension to the cavernous sinus causes an engorgement of the vessels of the orbit, with consequent ophthalmos, photophobia, disturbances of vision, paralysis of the motor oculi, abducens, and trochlear nerves, ptosis and edema of the eyelids and trigeminal neuralgia. Thrombosis of the cavernous sinus of the other side is likely to follow rapidly, accompanied by similar symptoms in the corresponding eye.

While erosion of the internal carotid artery is extremely rare, a few cases have been reported, all of them fatal. The condition can only occur in chronic cases with extensive necrosis. The diagnosis is evident from the gushing of bright red blood from the auricle with great force. This is temporarily stopped by pressure on the carotid in the neck.

In the reported cases death has occurred in from five minutes to thirteen days, even in those patients in whom ligation of the common carotid was performed.

27 East Fifty-Seventh Street.

To Limit Use of Saccharine.—The *Scientific American* says that a conference was held at Brussels for repressing the use of saccharine in food products or drink. While the drug has 400 times the sweetening power of sugar, it is dangerous to health and it is desired to prevent the fraudulent use of the product. Delegates were present from all parts of Europe, and it was decided to hold a new conference on the subject at Geneva during the next spring. A resolution regulating the use of saccharine was adopted. Fiscal agents will look after the manufacture and destination of the product and see where it is employed. In many countries of Europe it is brought in by contraband, and in one case there was found in a vessel in the Russian port of Riga about a ton of saccharine, which would replace 400 tons of sugar.

THE INDICATIONS FOR TYMPANOMASTOID EXENTERATION IN ABSENCE OF SYMPTOMS OF INTRACRANIAL COMPLICATIONS *

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The prime indication for evisceration in chronic tympanic suppuration is the confidence of the surgeon that he will thereby make the condition safer and better. Hence, the personal equation of the operator is one of the major factors—his operative skill and facilities, together with his insight into the pathologic conditions and the therapeutic possibilities of less radical measures. Some men have not drilled themselves in the exhaustive application of the non-operative procedures or use them so half-heartedly that little can be expected from them: some patients are so intolerant of the tedious, painstaking, pains-giving procedures which alone can succeed in difficult cases that one must cut the Gordian knot rather than attempt to unravel its complexity.

For the field is very complex and difficult; and, while we can truly claim that every one of these patients can be cured by thorough cleansing, experience shows that what is so simple of statement is often practically impossible of performance. Even the intricacies of the tympanic cavities often defy complete access for cleansing, unless the knife clear the way by enlarging the drumhead opening or dividing obstructing folds. Removal of the ossicles should do even more to facilitate access and aid cure; but, as I have repeatedly said, my experience of this has been extremely unsatisfactory, and I have never brought to lasting cure, cases that had resisted full test of mere cleansing. I can fairly claim the same percentage of cures without operation as others claim with it, even in cases condemned by colleagues as beyond any but operative relief.

Study of the literature shows a reasonably probable cure in but 50 per cent. of ossiculectomies, in many of which, like Schwartze's, there was little or no trial of non-operative measures first, the patients being operated on as soon as seen. The same attitude toward radical exenteration has robbed many men of their opportunity to learn how much and how lasting is the benefit which in many of their cases may be gained by fairly persistent cleansing methods.

For this attitude the statements of some men who meet demur as to quick surgical intervention by a preaching more radical than their practice are in part responsible. In face-to-face discussion it is readily apparent that the indications on which men seeming to stand near the two extremes really operate are nearly identical—the main difference being a question of the time at which each thinks that the reasonable efforts in the non-operative line must cease. But one man will cite "all the cases of attic suppuration with Shrapnell perforation" as needing radical evisceration, yet admit that he brings many through without. Another will state that cholesteatoma formation is an absolute demand for operation; yet I have long taught that most cases—broadly speaking, all cases—of chronic suppuration are maintained by cholesteatoma formation. Nature strives to heal over the gaping perforation by growth of the drumhead epithelium. If this fails to bridge the gap, it "skins over" the edges and the cells (perhaps the most rapidly proliferating in the body) invade the mucous cavity of the tympanum with its more succulent blood supply and there form the obstructing laminæ of so-called cholesteatoma. Close study with minutely thorough cleansing will reveal such epidermal flakes in practically every case of chronic suppuration.

Yet some men balk at this minutely thorough work as too hair-splitting and finical, perhaps as beneath their dignity or demanding more time than they can afford to the individual patient, especially in hospital work. Certainly it can not be delegated to the patient himself or even to the less expert assistants. Probe, forceps, curette and intratympanic syringe must be skillfully employed in tedious and exhausting manner if success is to be gained. Yet it is not only fair but urgent to question whether the aggregate of time so spent generally equals that demanded by the operative cure pushed to equal completeness. After it is done for weeks or months it may fail and call for operation; then one regrets and almost resents the wasted time and effort; yet in these same cases is the proportion of real "radical cures" nearly so good as often claimed? Politzer, in summing up as to ossiculectomy, cites "the limited success which the author has attained from this operation," as "after months or years the suppuration recurs, and it is finally necessary to resort to the radical mastoid operation." Yet of the latter he says: "It is impossible to establish, from the many communications which lie before us, all of which present different statistics, even an approximate relation between those cases which heal and those which do not. This is easily explained if it be borne in mind that some surgeons strictly limit the indications for operating, while others proceed to operative measures in all persistent middle-ear suppurations unassociated with complications. The latter will naturally have a greater percentage of cured cases." . . . "Stacke states that 94 per cent., and Schwartze that 74 per cent. of the cases in which the radical operation was performed were discharged as cured. Of the uncomplicated cases operated on at the author's clinic in the last few years, recovery did not take place in only 14 or 15 per cent."

It can hardly be doubted that in the two decades of radical tympanomastoid exenteration there has been considerable advance in skill in choosing cases and meeting the difficulties of the intervention, so a discussion of results must be based on the later years, and especially on the work of the men who are really experienced. My own estimate, published ten years ago, of 90 per cent. of cures proved too roseate, for some of these patients relapsed; and figures like those of Dench are too recent and too large to be followed to final issue. If the non-operative cure is to be distrusted until it has persisted at least two years without relapse, this is certainly a fair test to exact as to the operative results, and few have applied it to their own work as has Schwartze, whose admission of incomplete success in 26 per cent. has great weight. Summarizing the last ten reports from Schwartze's clinic, we find of the 979 patients operated on radically that 536, or 55 per cent., are set down as healed, 181 still under treatment when reported, 82 lost sight of uncured, 84 unknown results and 96 deaths. Among more than 700 additional cases reported by six skilled surgeons some 80 per cent. of patients are reported as cured, with only 5 per cent. of

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

deaths; but such figures lose their force when we read the claim of one man that of his 142 cases "without complications confirmed or imminent" all patients were cured. The second operations needed because of failure of the first by the same hands form a small but noteworthy group, while many patients are reported as cured although still showing discharge about the Eustachian tube. These fully offset the due additions to the healed from those unknown or under care at the time of publication.

The deaths reported, constituting nearly 10 per cent. of the whole, were more often in spite of the operation than because of it. Few can be directly attributed to the intervention; yet some apparently can, and I doubt if the mallet is as guiltless of precipitating intracranial involvements as its advocates claim it to be. Certainly meningitis and other complications previously unsuspected have flared up promptly or tardily after operation, in sad contradiction of the claim that the patient was to be made safe by it. Cases of uncovered dura found at operation are generally cited as if nothing but prompt intervention had saved the patient; yet most admit that the pachymeningitic granulations ought not to be attacked, forgetting that they were as protective before operating as after. I have had non-operative cases in which granulations of the exposed dura, all tegmen being lost, were cautiously bitten and burned away, with healing as prompt and lasting as though a needless exenteration had been done.

Are such patients lulled to a false sense of security? Rarely by any word of mine; rather the contrary, for the not improbable need of operation has been set before them when discharged on probation. Had I resorted in their cases to a "radical cure" would they have been as likely to seek periodic supervision later. Other otologists have operated on patients whom I have tided along for years and reported the need of such intervention as urgent; but the same is said of many others who were brought to enduring cure by non-operative measures. That I see cases evidencing the mistakes or failures of some of our most esteemed colleagues does not rob me of respect for their judgment or skill. I know that these mistakes are the exception, not the rule; yet it does fortify one in maintaining his own judgment until proof is furnished that it is actually in error. Perhaps there is pus in the mastoid cells or their lining is swollen into polyp-like filling. Must every empyema of frontal or maxillary sinus have a radical operation? Is there caries present? The same probe which can demonstrate it from the canal can often curette it successfully. The parts are complex and difficult of access, but full success is not impossible. At least it is hardly for the man who has never learned how to do it, especially if he is only a fledgeling, to be too uncompromising a critic.

The effect on the hearing is generally regarded as unimportant; slight gain being more common than loss, usually slight. Yet in some of the best hands a loss was shown by rigid testing in full 30 per cent., and, while men in small series stated that as low as 5 per cent. showed loss, the summary of 639 cases available for study gives loss in 122, or 20 per cent. This is insignificant in cases in which the operation is done for urgent symptoms, but must be weighed when suppuration alone calls for intervention. Hearing after operation is rarely so good as one meter for a stage whisper; anything better is apt to be lost.

Facial palsy is very variously reported, some men counting only those cases in which it is permanent. But even the palsies ultimately recovering are distinctly to be weighed, for if they occur in the hands of experts how much more serious will they be in the work of beginners. Few operators have had Schwartze's luck of 6 in his first 30 cases, but in one of our best special hospitals there were 20 among 117 operations, only 4 being known to persist. They may clear up under appropriate treatment even after persisting a year or more unchanged, and in the future the grafting operations may give successes that are recognizable to the impartial; but this will long remain one of the positive drawbacks to lightly advised radical intervention.

Deformity is usually trivial, even when the operation is rather ruthlessly extensive or when a postauricular opening persists. Torticollis has been left, but only in cases not well cared for. Atresia of the external canal is infrequent, and chondromalacial deformity of the auricle has been seen by few operators. Unsightly widening of the entrance is of doubtful aid in securing good healing and is to be deprecated. Still more is it of doubtful wisdom to chisel extensively the uninvolved mastoid merely to get freer access to the diseased tympanic cavities. My protest in favor of the original Stacke operation is still cogent except for those too "thumby" to work in the more limited space and extend the operation only so far into the mastoid as is found to be needful. The larger surface opened to septic absorption materially increases the risk. For tympanic suppuration and caries *mastoid* exenteration is not indicated.

Summarizing the indications for radical exenteration in chronic tympanic suppuration with no intracranial symptoms, I would claim that such intervention should be advised for the expert operator when the hearing can not be improved beyond one meter for a stage whisper nor the discharge stopped nor the fetor controlled by a reasonable trial of the most thorough cleansing. This must include painstaking use of probe, forceps, curette and the intratympanic syringe, with antiseptic instillations, insufflations and drainage wicks. The reasonableness of persistence must be conditioned on the patient's ability to submit to full treatment, the general health and any such intercurrent complication, as facial palsy, stenosis of the canal by soft tissue hypertrophy or bony outgrowth, or labyrinth caries, which have been shown to indicate often a graver prognosis, as well as to furnish an additional lesion which we may hope to bring to a cure by the evisceration. Labyrinthine involvement, as shown by vertigo, nystagmus and loss of caloric reflex, electric response and bone conduction, constitutes a distinct indication for operation, as suppuration in this portion of the ear is trebly likely to involve the intracranial structures. It must be differentiated, if possible, from cerebellar disease, and especially from hysterical and other neuroses—a distinction easy in print, but often almost impossible in clinical cases. Tympanic exenteration must precede any evisceration of this vestibular apparatus, whether done for sepsis or for uncontrollable vertigo or tinnitus.

1717 Locust Street.

Lack of Playground Space in New York.—The children of New York are prisoners jailed in narrowness and literally "cabined, cribbed and confined." It is doubtful if the children of any city of the world have less scope for play and exercise.—*Hygiene and Physical Education.*

CONTRAINDICATIONS TO THE TYMPANO-MASTOID EXENTERATION IN CHRONIC SUPPURATIVE OTITIS MEDIA *

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BOSTON

At many medical meetings physicians have listened to a discussion of this subject from various standpoints, radical and conservative, without coming to a definite conclusion, and I do not suppose that any better results will be attained at this particular meeting. In fact, as one reviews his own impression of the subject, he is at first radical and then again conservative according to his experience in cases from year to year. I suppose my own standpoint may be regarded as a conservative one, and yet there are certain cases in which I believe operation to be imperative; in some of the cases in which I claim a contraindication exists it may be impossible to lay down a definite rule.

In cases of chronic middle-ear suppuration with large perforations and a very slight amount of purulent discharge, which, however, will not cease after long-continued treatment and yet which does not bother the patient either with pain or retention of secretion, a definite decision is often impossible. The operation is certainly dangerous in the hands of unskilful operators and is not entirely free from danger with the most experienced surgeon. On the other hand, the condition is seldom dangerous, and yet when it is it is almost invariably fatal. I have never forgotten an impression made on me when called one night two or three years ago to see the only child (a boy 14 years old) of a family who are friends of mine. For eight or nine years, the boy had had an intermittent purulent discharge which came from a large perforation of the drum membrane of the right ear. He had never had any symptoms from this discharge and, in fact, there was no discharge from the ear two-thirds of the time. Three or four years before, acting on my best judgment, I had advised against a radical operation, and yet when I saw him with a temperature of 105 F., with an acute attack of chills, nausea, vomiting and delirium, in fact a most evident attack of leptomeningitis, I can not say how bitterly I regretted my former advice. On the other hand, I had seen a case which also lingers too long in my memory, of a working man who had a chronic suppurative discharge from one middle ear of twenty years' duration. It could not be stopped by ordinary treatment; he had never had any symptoms indicating meningeal trouble, and I advised a radical operation on him simply to relieve him of the chronic suppuration which required him to leave his work once a week and go to the hospital for treatment. There was really no other reason for urging an operation. The operation was done as skilfully as I knew how, and the man died eight days afterward of acute purulent meningitis.

We see, therefore, from these two cases how difficult it is to be definite, either for or against the operation. There are, however, some cases in which I think we can be perfectly certain that a radical mastoid operation should not be done. In the first place, we should never forget that in certain cases a patient may value hearing almost more than life and consequently when operating on the patient's only hearing ear this becomes an important factor in helping us to make a decision.

In nearly all patients with double chronic middle-ear suppuration or with a chronic middle-ear suppuration in one ear, and the hearing in the other destroyed by some former process, a radical operation should never be advised except as an operation of last resort. I mean by that, in the presence of direct meningeal or septicemic symptoms. My reason for making this assertion is that the patient with a chronic middle-ear suppuration has become accustomed to the amount of deafness which he has and has adjusted his whole scheme of life to it. He probably gets along with the allowances made for him by his employer or friends just as well as if he had normal hearing. Moreover, there is always the chance of stopping the discharge and ultimately improving his hearing by use of ordinary tympanic treatment, and in many of these cases there is, of course, chance of improving the hearing by use of some form of artificial membrana tympani.

An operation might, it is true, immediately improve such a patient, but not to any great extent, and it might also, and more likely will, seriously injure what hearing he has. We must also, in such a case, subject a patient to a bilateral radical mastoid operation, which is, of course, a far more serious thing than a single radical mastoid operation.

Then in the case of very young children, that is children under five years of age, I believe that a radical mastoid operation should practically never be done. It is hardly possible at this age to have a chronic middle-ear suppuration which will not yield to ordinary middle-ear treatment, with the exception of the very severe surgical infections, such, for instance, as actinomycosis or tuberculosis; and in these infections a radical operation is going to be a failure as regards stopping the suppurative discharge, on account of the likelihood of infection of the skin flaps and new formed tissue in the cavity and of involvement of adjacent portions of the skull and of the petrous portion of the temporal bone. When we are positive that middle-ear treatment fails to stop the suppurative discharge in the infant or young child, it is then better, as suggested by Dr. McKernon,[1] to do a simple mastoid operation, draining the middle ear through the antrum and keeping the mastoid wound open, if possible, until the middle ear is dry, if necessary doing a secondary operation, in such a case at a later date if the ear still continues to discharge.

In a majority of such operations in children a perfect result as regards discharge and hearing will be obtained, and the child will be left with an intact drum membrane and perfect hearing. In a small proportion of cases the discharge will diminish but not cease, and two or three such operations may be required. I see occasionally now (not professionally) a young girl, now of 20 or 21 years of age, who has a perfect drum membrane and perfect hearing in an ear on which I have done four simple mastoid operations, the first seventeen years ago and the last about twelve years ago. She has had no discharge from the ear and no symptoms of mastoiditis for the last twelve years, and if she were my own child I would far rather have her subjected to several acute mastoid operations in infancy and early childhood, and then at 20 find her with a perfect ear, than I would to have one radical operation at the same period and afterward carry a totally destroyed drum membrane and practically deaf ear through life.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Trans. Am. Otol. Soc., 1907.

In addition to the fact that a chronic middle-ear suppuration in a young child is likely to heal after ordinary middle-ear treatment, or after the performance of one or two simple mastoid operations with an after-treatment which consists in keeping the antrum open until the middle ear is dry if possible, there is another great objection to performing an extenterative operation on a very young child, and that is that the anatomic landmarks are different from the adult. The facial nerve is more easily injured and lies more superficially than we are accustomed to seeing it, and it is extremely difficult for the most experienced operator to discriminate between a normal soft healthy bone of a baby and the soft carious bone of the diseased portion. If in such a case the operation is extended beyond the limits of the diseased portion and into the diploë of the normal bone, in a number of cases an extensive osteomyelitic infection of the normal bone occurs which will extend far beyond the limits of the normal mastoid.

I have reserved until the last the most difficult and important subject and the one on which there will be the most difference of opinion, namely, the question of radical operation for the relief of intratympanic suppuration of long standing in adults in whom there is shown, so far as can be seen, a normal mucous membrane of the tympanum with no evidence of granulation and no evident symptoms of necrotic process.

It is not infrequent to see adults who have carried a suppurative ear forty or fifty years and who have never had any bad symptoms during all this period. On the other hand, we have all seen cases in which an ear of this description caused unexpected trouble. I have in mind especially an adult who had such an ear for twenty-five years, and who suddenly and without warning developed a meningeal process with a fatal result. In such cases, I do not advise against operation except in that I do not advise any operation until faithful middle ear treatment has been carried out for at least six months; and I do not count such middle-ear treatment as faithful unless the ear has been persistently syringed with a middle-ear syringe, as, for instance, Hartman's cannula, and in which the cannula has been passed directly to the attic and the whole tympanic space flushed out at least once a day for three or four weeks When such careful treatment has failed to stop the suppuration, I believe that an operation should be advised unhesitatingly, but I also believe that it should not be advised except under such conditions, and it is altogether too evident nowadays that many aural surgeons advise operations in these cases without sufficient consideration of the former treatment of the case.

To recapitulate, I believe the radical mastoid operation is contraindicated:

First, unless the operator is experienced in the surgery and anatomy of the temporal bone and well-grounded in the after-treatment of such operations.

Second, it should be performed on patients with double chronic suppurative middle-ear disease except in the presence of symptoms indicating danger of patient's life.

Third, it should not be performed on a patient's only hearing ear except under the same circumstances.

Fourth, it should not be performed on young children, that is children under 5 years, under practically any conditions.

Fifth, it should not be performed on a patient with tuberculosis or syphilis except in an emergency.

Sixth, it should not be performed on any suppurative middle-ear process, of however long duration, until the ordinary forms of middle-ear treatment have been faithfully carried out for a period of at least six months, except in the presence of symptoms indicating cerebral involvement with danger to life.

226 Marlboro Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DUEL, RANDALL AND CROCKETT

Dr. S. MacCuen Smith, Philadelphia: I am glad to find that the essayists advocate the procedure probably carried out by most of us, namely, when the examination shows a pathologic aural condition, non-operative lines of treatment are given a thorough trial, and if they fail to effect a cure surgery must be resorted to. Brain abscess or sinus thrombosis will sometimes develop without symptoms. Indeed, there are few cases that present distinct localizing symptoms that are characteristic of any one of the intracranial complications, owing to the fact that in the majority of cases more than one lesion is present. In cases in which we have had the advantage of the advice of surgeons, neurologists and medical men it has still been impossible to locate accurately a brain abscess formation. At the point of probable location of the trouble, as indicated by the neurologists, we would find nothing, but at autopsy the abscess was found on the opposite side from where it was suspected. I mention this to show how impossible it is definitely to locate many of these intracranial lesions.

In operating for chronic suppurative otitis media, I wish to call attention to a point which, in my experience, is not infrequent, to-wit, the escape of pus through the tegmen antri at the time of operation which was not anticipated.

In illustration I cite the case of a child of seven years on whom I operated this winter. The patient had had a discharging ear for five years. The child became dull at school, inattentive, rather quarrelsome, and the mental attitude was gradually becoming impaired. There was considerable discharge from the external auditory canal. On account of the mental attitude and certain symptoms of labyrinthine involvement operation was advised. After opening the cortex there was a gush of pus such as is frequently found in cases of acute empyema of the mastoid. This was followed by two other distinct discharges of pus, which seemed to escape under pressure. It required the attention of one assistant constantly to wipe away the pus. Finally this ceased and we continued the operation and found a carious opening exposing the tegmen antri and also an opening in the dura. A probe showed that this opening extended into the temporosphenoidal lobe. As the drainage had been good, we did not introduce a tube, but contented ourselves by introducing a small piece of iodoform gauze. The patient did well and improved mentally for about three weeks, when she was taken with a violent convulsion which lasted forty-five minutes, and nystagmus to the opposite side occurred. The child was taken to the operating room, the original opening enlarged, and some bone removed around this opening through the tegmen. A Jackson brain forceps was introduced into the old tract without evacuating any pus. We then inserted it anteriorly and evacuated a quantity of grayish-yellow, foul-smelling pus, almost a test-tube full. A drainage tube was introduced and again the patient progressed nicely. At the end of three weeks practically the same symptoms occurred. On exploring the two old tracts no additional pus was found. We then took away more bone posteriorly to the opening and again evacuated a quantity of pus of a similar character. After that the child recovered. I mention this case to show how, as has been pointed out here, we may have these brain abscess formations without symptoms extending over a long period of time. My conception of this case is that the first was the parent abscess cavity and that the one anterior and the other posterior were both satellite cavities arising from the former. It simply confirms the fact that has been frequently pointed out, that the deaths following operations where pus has actually been evacuated from the interior of the brain are usually due to the satellite abscess formations which have been overlooked, and not to the fact that the pus was not all evacuated from the parent abscess formation.

Dr. Randall's conservatism may be called a bold conservatism. He is radical, as are the majority of us, when it is necessary to be so, and I agree with him that we should make the younger men, especially, understand that these cases are to be treated non-surgically before resorting to surgical means. On the other hand, there are cases that require prompt operative interference. Probably the best way to prevent labyrinthine involvement is to operate before that condition can develop, as it is a most serious condition which only the ultra-expert should undertake to operate on, but

I consider the treatment of double mastoiditis a matter of the greatest importance. This is especially true in young when diagnosed, an operation should be promptly performed. children, from the fact, to which I have frequently called attention, that these children will very likely become deaf mutes if anything, operative or otherwise, destroys their hearing. If only one ear is involved the importance of its possible loss is very much lessened, as the child will learn to talk in the usual way. I have seen patients up to the age of 10 or 12 years become positively mute after having suddenly lost their hearing through cerebrospinal meningitis. I recall one case, the daughter of a physician, who lost her speech, although she was 23 years old, when her hearing was from some cause destroyed. She gradually forgot how to speak and is to-day, after 12 or 14 years, a complete deaf mute.

In cases of double mastoiditis requiring operation (and now I am referring to the chronic variety) it might be well to consider the so-called Heath operation, which, however, was first performed, I believe, by Jansen. In this operation we retain the more or less necrotic drumhead and ossicles, which probably have a tendency to preserve, and possibly improve the hearing. In other words, as was pointed out by Heath, the site of the disease which causes a continuance of the suppuration is probably situated in the mastoid antrum and not, as usually supposed, in the tympanic cavity.

Dr. J. A. Stucky, Lexington, Ky.: I think that we must make a distinction between conservative radicalism and radical conservatism. One is safe and the other is not. I have had some bitter experiences in being too radically conservative, and as a result have signed four death certificates. Dr. Crockett says that he does not advise the mastoid operation in tuberculous cases. I desire to report five patients operated on in the last two years in which there was well-marked pulmonary tuberculosis, with extensive involvement of the ear, and the question of the safety of giving an anesthetic had to be considered and only partial anesthesia was deemed advisable. Yet each of these five patients made a beautiful recovery, so far as the ear was concerned, and great improvement in pulmonary trouble. One was a double radical mastoid operation. Four other cases similar to these have given just as good results. In the syphilitic cases, too, the same rule holds good. If there is locked up pus in any cavity the sooner we get it out the better.

Dr. Roy P. Scholz, St. Louis: I consider myself conservative and yet when I find cholesterin crystals I advise operation. I think operation is as necessary in these cases as in a case in which a pathologist diagnoses a section taken from a tumor, as a malignant growth. It is true a cholesteatoma is not a malignant tumor, still by its growth it plays such havoc with the surrounding structures, exposing the individual to such risk of life as to make its removal desirable. While beginning as only misplaced epidermis (epidermis growing in a serous cavity), it may become so closed off as to form a poorly drained pocket or true cyst. The accumulation of débris, together with the natural cell growth, causes a rapid increase in size of the tumor mass at the expense of the surrounding sutures. Nor should we forget another method of growth of the cholesteatoma that by budding or throwing out sprouts into the surrounding tissue each of these in turn becomes a cyst. The greatest danger of cholesteatoma is that we have to deal with a cavity, not only favorable to germ growth, but literally filled with germs of many varieties. Even though we keep the pocket empty by cleansing, the lining still remains, continuing to grow and to throw off more débris. We should keep in mind, at least when cholesterin crystals are found, the great risk to which the patient is exposed and be prepared to operate, and then very radically, on short notice. One should go far beyond the cholesteatoma mass into the healthy tissue, for fear of overlooking one of these nests of epidermic cells.

Dr. C. F. Welty, San Francisco: From some of these papers I think it is hard to find where a man stands. I accept all our indications for the radical mastoid operation that have been laid down and established. The only point at issue is that of a suppuration that doesn't improve by intratympanic treatment. If the patient doesn't recover in a reasonable length of time the condition should be operated on. In other words, patients who come to one must recover or be operated on.

I recently reported 100 radical operations. While I was in process of doing these operations 12 patients with whom I came in contact, or knew of, died because they were not operated on; 2 whom I operated on died; 1 was unconscious 24 hours before operation, and another was, perhaps, suffering from purulent meningitis at the time of operation. There were 94 cures; by cures I mean that the pus ceased to discharge. From 3 to 5 per cent. had pus that would return during the year with the accumulation of débris and after a little antiseptic treatment would recover. In 57 the hearing was improved. In 30 it remained the same and in 2 it was made worse. In 2 cases the hearing was 20 feet for a whisper; 7 patients had facial paralysis prior to operation. They all recovered but one, who died with meningitis.

In regard to tuberculosis, I stand with Dr. Stuckey absolutely. In operating on 100 patients some of them must have been tuberculous. Twelve cases were reoperations, the patients coming from other physicians. I reoperated on 5 of my own patients; 2 of them were reoperated on at different times and one is not well yet. Four years ago I saw a patient with double chronic otitis media and recommended this operation when he had an intact labyrinth. I said: "The chances are you will have an improvement of hearing." He wanted me to treat him without operation, but I told him that there was no other treatment. He came back some time afterward with labyrinthine involvement and was operated on and recovered. Another patient in whom hearing was very bad on both sides was operated on and both ears improved.

Dr. E. C. Ellett, Memphis: From what I can gather in regard to this radical operation, from a rather limited experience of my own, but a good deal of observation of the work of others, there are three points of objection to be brought against it. In the first place, it may not stop the suppuration, possibly from the presence of cholesteatoma and possibly from difficulty in healing up the mouth of the tube. A discharge that persists from the mouth of the tube should not be counted too heavily against the operation, as the patient is cured from the dangerous condition. Second, in regard to hearing, favorable reports to the contrary notwithstanding, my own observation is that the radical operation is the funeral of the ear. Third, the possibility of facial paralysis, which no amount of skill can entirely do away with.

With the Heath operation we may not stop the suppuration, which may persist from the tube which no attempt is made to close. The hearing, however, is never made worse and in a majority of cases is much improved. The membrani tympani and ossicles are not disturbed and I have seen as much as one-fourth of the drum regenerate after the operation. There is no possibility of facial paralysis, or at least no more than in the simple mastoid operation. Chronic suppuration in many cases is an antral disease. Therefore, if we drain the antrum well we will cure the suppuration. My conception of the Heath operation is that it is the application of the simple operation to chronic mastoid disease. I think that hearing is conserved by early operation in these cases. In one case of double chronic suppuration which I saw in Mr. Heath's hands one ear had been operated on by another surgeon and the child was deaf in that ear and had facial paralysis. He did his operation on the second ear and suppuration ceased, there was no facial paralysis and perfect hearing was preserved. Many members of this section have seen the excellent collection of temporal bones that Mr. Cheatle exhibited in this country a year ago. A study of them will convince one that so-called osteosclerosis is not the result of chronic suppuration, but the cause of it. It is a type of infantile mastoid in which the cells have not developed.

DR. A. R. SOLENBERGER, Colorado Springs: Prior to six or seven years ago I never operated on tuberculous otorrheas except by simple curettments. The teaching up to ten years ago, both in Europe and in America, was distinctly against it. However, since I have been in Colorado, where we see more of these cases than in the East and not a few coming to grief, we operate, and in as radical a way as possible. The only differences in the indication for radical work between tuberculous and non-tuberculous cases is the greater consideration of the general condition of the patient, but just such and no more than we would take into account in laryngeal tuberculosis. This done, we get just as uniformly good results. Obviously many patients do not require the most radical procedures.

DR. GEORGE E. SHAMBAUGH, Chicago: It may seem to some that the views expressed here are over-conservative. I would refer those who have this fear to the proceedings of the German Otological Society for 1908. The statement has just been made that whenever a diagnosis of cholesteatoma is made a radical operation on the ear is always indicated. This is hardly the case. There is a vast difference in the character of cholesteatoma. We have all seen cases in which a cholesteatoma discharges itself into the external meatus and the condition is practically cured without an operation.

DR. S. L. LEDBETTER, Birmingham, Ala.: Physicians who practice in large cities and in the clinics have a class of cases that we do not have in country neighborhoods and that probably explains some of the differences of view. I am sure that while I see a number of acute and chronic middle-ear suppurations, I do not have many cases in which it becomes necessary to do a mastoid operation. If properly treated nearly all these patients recover without operation.

DR. A. B. DUEL, New York: The presence of a bacteremia in an otitis without the other conditions which might give rise to it in other parts of the body has been considered an operative indication, even in the absence of other aural symptoms. In a recent paper I showed that in a certain number of the positive cases bacteremia existed which was not accompanied by any clinical symptoms whatever of septic sinus thrombosis. Therefore, it seems to me that it would be impossible for us to accept the dictum that it can be taken as an operative indication in the absence of clinical symptoms.

DR. B. A. RANDALL, Philadelphia: Dr. Duel's point should be emphasized; unless we do our intracranial operations generally as explorations we may fail to save our patients; if we wait for clear-cut indications we will often be too late. We must be fairly radical as soon as we feel that we are in the presence of intracranial complications. Abscess of the brain has been shown to be in 80 per cent. of cases immediately in relation to the diseased temporal bone, and without other localizing symptoms we are justified if not compelled to operate on such indications. I believe that some disadvantages of operation are, perhaps, more apparent than real. The facial palsy—which in my paper I, perhaps, cited in unpleasant form, referring to a hospital where 17 per cent. of cases showed facial paralysis—will often be precipitated; the palsy would have occurred spontaneously if it had not been brought on by the operation, and, while the operative palsy is transitory, the other may have been much longer. I would also speak again on the danger of the use of the mallet. I think that the lesions in the brain frequently may be ascribed to the use of the mallet.

DR. E. A. CROCKETT, Boston: The principal criticism of my paper seems to be in the matter of operating on tuberculous patients. Tuberculosis of the middle ear and mastoid, not complicated by lung tuberculosis, is found more often than is generally supposed. In a ward for babies in which there are 15 beds I tried the von Pirquet test in all cases, with positive results in 77 per cent. All the mastoids operated on were tested by injecting guinea-pigs and 20 per cent. of the guinea-pigs died with acute tuberculosis. I think that tuberculosis of the middle ear and mastoid without tuberculosis of the lung is much more common than we think. All these patients do well with the simple operation which doesn't take over fifteen minutes, but if the radical operation be undertaken the children will often die of shock or sepsis. I am not against operating on the mastoid of tuberculous patients, but against doing the radical operation in these cases.

I think the technic of the Heath operation more difficult than any operation on the ear that I have tried to perform. The patients who recover with the Heath operation would recover with the old Schwartz operation in which the antrum was kept open until the middle ear was dry. When I have done the Heath operation in the other type of cases I have found the worst mess to do a secondary operation that I have ever encountered. These patients have been very difficult to treat afterward. Heath himself operated on one of my patients while she was in London last summer in July, and I have been seeing her, ever since her return for a continued suppuration, and she is in a far worse condition than any case of acute mastoid trouble that I have ever seen.

INFECTIOUS LABYRINTHITIS

TWO CASES WITH ACCOUNT OF OPERATION*

GEORGE F. COTT, M.D.
BUFFALO, N. Y.

CASE 1.—Mrs. E., aged 40, weight 210 pounds.

History.—The patient had had a discharge from the right ear since she was six weeks old; there was nothing left of the membrana tympani. The condition had never given any trouble till shortly before she consulted me. She complained of having had attacks of dizziness, lasting about five minutes each. She had had little sleep for several weeks and sometimes she awakened at night with an attack. Occasionally she vomited, and at times she became nauseated as soon as she awakened. She had also had attacks of fainting.

Examination.—The patient was pale and hysterical. On deep pressure there was pain, principally over the antrum. As soon as the caloric test was begun she screamed and became greatly excited; this test demonstrated some nystagmus. There was impaired coordination, and loss of hearing. Here it was necessary to discriminate between symptoms due to disease of the labyrinth and those due to hysteria. Revolving produced such dizziness that I could not turn the chair half around. Air pressure produced no effect at all.

Operation.—Ordinarily, in such a case as this, I should have hesitated to operate, but in view of the fact that the symptoms complained of were probably subacute following a latent period, I thought it best to give the patient relief at once. Membranes and ossicles were gone. A radical operation was first done; then a great part of the horizontal canal was removed and part of the inferior vertical canal also. I then chiseled behind the knee of the facial canal and entered the vestibule; a probe was then passed from the oval window to the operative field, thus establishing good drainage.

Postoperative History.—After the canal was opened, cerebral fluid began to flow more rapidly than gauze would absorb, but after the operation was completed gauze packing lessened the flow perceptibly; for two days, however, the patient felt it trickling down the Eustachian tube. Five weeks after the operation the patient felt well, though there was some facial paralysis. The ear was perfectly dry.

CASE 2.—Miss B., aged 16, a school girl.

History.—The patient's mother died of tuberculous laryngitis, and two sisters had tuberculosis of the bowels. The patient had had a discharge from the left ear since she was ten weeks old, which of late had become intermittent. She had been treated from time to time by different specialists, but without result, and had been told that she would probably outgrow it by the time she was fourteen.

Present Illness.—On May 29, 1906, she had earache, and on the following day she had a severe chill. Three days later she became dizzy and had headache. Ten days after the first attack she had another chill on the train coming to the city and in my office had another severe chill, the temperature going up to 104 F. There was also deep-seated pain on pressure.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Operation.—Operation was done at 9 p. m. the same night. I found a membrane consisting mainly of epithelium and pus cells lining the antrum. Bone was destroyed over the lateral sinus and a quantity of pus was removed from under the dura. The girl made a good recovery and left the hospital in two weeks.

Subsequent History.—Two years later this patient came to my office complaining of dizziness. She was unable to stand without feet apart; was dizzy on waking, and her hearing had been gone for several years. I kept her under observation for two weeks but no improvement was noted.

Diagnosis.—In cleaning out the ear some cheesy matter was removed which proved to be a quantity of cholesteatoma; this led to a decision in favor of operation. Here was a latent labyrinthitis followed by a subacute condition which would certainly cause further trouble.

Second Operation.—The same operation was performed as in Case 1, except drainage of the vestibule. The lateral sinus having been perforated, it became necessary to plug it, and consequently it was difficult to remove enough bone to make room for the chisel to work under the facial canal, so there was no communication made with the vestibule, but the promontory was chiseled away aand thus drainage established through cochlea, and canals.

Result.—The patient left the hospital in two weeks, still suffering from vertigo. I have seen her several times since and found her in good health, though with occasional headaches and sometimes some dizziness.

In both of these cases I might have waited for succeeding attacks, for in both cases there was labyrinthitis, while the organ of Corti had lost its function years ago through the disease of the middle ear, without producing any of the acute labyrinthine symptoms, unless they were entirely overlooked. When cholesteatoma is present, however, there is always danger of infecting the labyrinth, and one is justified in draining the internal ear.

DIAGNOSIS

These patients complain of great dizziness, moving of objects in one direction and sensation of body movement in opposite, usually going around, nausea and sometimes even vomiting. There is spontaneous nystagmus toward both sides. After two or three days (perhaps weeks, depending upon virulence) they enter the second stage, and nystagmus is toward the diseased side only; dizziness continues, irritability of the semicircular canals is increased and hearing is plus. If resolution does not take place the disease enters on the third stage. Nystagmus is then toward the sound or healthy side, vertigo is still present, irritability decreased and hearing is lost. After a few days nystagmus again becomes of equal degree on both sides in the fourth stage but dizziness is absent, irritability of the semicircular canals and hearing are gone. When nystagmus ceases the fifth stage is entered on, in which nystagmus, vertigo, irritability and hearing are all absent. (The normal ear has no nystagmus or dizziness, irritability normal and hearing plus.)

If the caloric test is applied in the third stage no reaction is noticed. This verifies the diagnosis of destruction of the labyrinth.

The first two stages, which show increased irritability to diseased side, belong to the variety called perilabyrinthitis. The change in nystagmus to the sound side and lessened excitability of the semicircular canals are distinctly endolabyrinthine. The first two stages of perilabyrinthitis may be, and in the majority of cases are, due to a fistula or circumscribed disease of the bony canal, while in the three last stages the disease becomes diffuse and always finally destroys hearing.

If the disease is checked, instead of going through these regular stages, it becomes latent, to be succeeded sooner or later by a second or third attack, and so on. When the symptoms are not so severe as above described, and the patient is able to walk, he usually walks with the feet wide apart to keep from falling; the feet are placed in the same position when standing still. When they are placed together, that is, the sides touching each other, the patient usually inclines toward the affected side and, with the eyes closed, will fall toward the diseased side. This will be more marked when the patient is trying to stand on one foot, but more especially so when the foot employed is the one on the diseased side. After all these symptoms have passed off and the patient has entered the latent stage there still are means to ascertain the status of the disease, for the patient may believe himself perfectly well.

At first then we have the perilabyrinth affected but when through a fistula or carious process the endolabyrinth becomes involved and the process having been slow we get symptoms of approaching destruction of the semicircular canals which invariably affects the cochlea also, dizziness gradually vanishes. However, dizziness exists so long as nystagmus is directed to one side alone. As soon as the labyrinth becomes affected there are vertigo and disturbance of equilibration.

Barany says: These symptoms may be due to other causes but when they are of vestibular origin we can alter the fall of the patient by changing the position of the head; the patient is not conscious of the fact that he is not performing the test normally and can not retain his equilibrium by touching a stationary object.

Labyrinthine vertigo may and often does come on even during sleep, (the vertigo sometimes is so severe that nausea is produced, and even vomiting) or on rising from the bed or on performing any rapid movement of the head and lasts from a few minutes to half an hour or more. Slight attacks lasting from a few seconds to several minutes do not necessarily signify endolabyrinthitis but may be noticed in the latent stage and therefore are suspicious. Sometimes external causes affect a diseased labyrinth markedly, such as rapid movements of the head, stooping and rising, drinking spirits, or smoking and are accompanied by nystagmus. In vertigo, not labyrinthine, the patient often complains of everything getting dark and involuntarily closes the eyes, but this variety does not come on during sleep. Therefore the cardinal symptoms of suppurative labyrinthitis are spontaneous nystagmus, vertigo, increased irritability of the canals, or decreased if the endo-sac is involved.

In the latent stage, a patient may be examined at the office and even in the acute stage he is often able with a little assistance to call on his physician. The actions of the patient are peculiar in every case. He may waddle as though topheavy, instead of walking, his feet may be far apart and, he may state that everything is going around or that he is moving around the room and the furniture seems to remain still. He may walk steadily but when attempting to stand on one foot, on the side of the diseased ear, he will fall always toward the side of the disease. Von Stein's test of jumping backward is favorable only in some patients and during the latent stage. When one can make use of it the patient will jump backward with separated feet deviating from a straight line, such deviation being toward the diseased side and the energy with which the patient begins jumping becomes markedly less with the fourth or fifth jump.

If one side is normal, it may be tested and found to produce on turning, nystagmus up to forty seconds, possibly but thirty or even only twenty-five seconds. Whichever it is, the diseased ear, will be much more than normal. If the endolabyrinth is involved the opposite will be the rule. Whatever the normal is, the diseased side will be lower by more than one-half, as perhaps from five or eight to thirty.

When the patient has become hysterical from long suffering with suppuration or anxiety, the caloric test may call forth a scream and violent sobbing, this must not draw the attention of the physician from the real work in hand; also revolving an hysterical patient seems almost intolerable and puts him or her into a terrible fright.

The caloric test is applied with water that is above *or below the body temperature.* A few ounces in a Politzer bag is thrown into the ear against the upper wall of the meatus through an attic nozzle; it takes one or two minutes to empty the bag; the eyes looking straight ahead are watched and nystagmus is soon observed.

The *revolving test is simple* and can be carried out in the office while the caloric test may be used at the bedside. It has been found that turning a patient ten times on a revolving chair gives most accurate results.

TABLE OF ALEXANDER

Stages.	1	2	3	4	5
Spontaneous nystagmus	Toward both sides.	To diseased side.	To good side.	Toward both sides.	Gone.
Vertigo	Present.	Present.	Less.	Going.	Gone.
Irritability of semicircular canals.	Increased.	Increased.	Decreased.	Less.	Gone.
Hearing	Plus.	Plus.	Gone.	Gone.	Gone.

Barany says: After rotating neurasthenics, they will complain that the vertigo produced is more violent than the spontaneous variety but on bending the head forward during the turning no difference will be noticed.

In a fistula or circumscribed inflammation of the vestibular tract rapid head movements produce more violent dizziness than in hysterical patients. It is even possible by throwing the head backwards to produce nystagmus toward the affected side with vertigo (perilabyrinthitis).

The table of Alexander presents graphically the five stages of labyrinthine infection. The first two stages refer to perilabyrinthitis and the last three to endolabyrinthitis always due to suppuration of the middle ear. A tumor of the auditory nerve would present the same condition. *The otologist sees the patient in any* of these stages. The disease may stop at any stage and become latent for awhile then start up again, and so on.

To recapitulate: Revolve patient ten times toward the left when the right ear is affected, and, on stopping, nystagmus will be toward the *right side, that is the* slow movement of the eyes toward the left and the rapid movements toward the right side. Nystagmus above normal as compared with the healthy side indicates perilabyrinthitis. If the movements of the eyes are below normal say *from five to ten seconds only, it indicates endolabyrinthitis.*

In the caloric test, cool or cold water if injected into the affected ear in the second stage will produce nystagmus toward the good side. Hot water will also produce nystagmus but to diseased side. Air-pressure nystagmus with the Politzer bag, according to Barany, when perceptible, and the caloric test is positive is indicative of fistula.

In using galvanism, the anode in front of the right ear, 10 to 12 milliamperes, produces rotatory nystagmus toward the left while the cathode will have the opposite effect.

It is difficult to maintain the body erect when placing one foot before the other (Jansen). Standing on one or both feet with eyes closed is *practically impossible* (Rhomberg), and often the patient stands with feet apart to keep from falling.

Dizziness occurring during sleep and on rapid movements lasting a few minutes to thirty or more is a valuable diagnostic sign.

INDICATIONS FOR OPERATION

In acute suppuration of the labyrinth, when there is vertigo, nystagmus to good side, and decreased irritability, fever, headache, foul secretion, pain in mastoid or periosteal abscess, the radical operation is first performed followed at the same sitting by *removal of semicircular canal or canals and drainage through the oval window.*

If the patient is not in immediate danger we may wait until the more acute stage has subsided, then both operations should be done at once; for in just these cases *if the radical operation only is performed, postoperative meningitis is most liable to occur.*

In fistula or the circumscribed variety of labyrinthitis middle ear exenteration often causes healing without touching the canals or vestibule. If diffuse symptoms follow, the labyrinth must be drained.

Hearing must be taken into account. When it is bad or gone the cochlea must not be considered at all; when good it is better to hesitate, for the patient may recover, as the disease has not yet reached the inner side of the sac. If the patient's hearing is bad in the healthy ear and better in the diseased, drainage of the vestibule or destruction of the canals must not be considered because hearing is always destroyed by the operation.

Alexander's rule is never to operate on a labyrinth when there is hearing or when there is normal or increased irritability of the vestibular apparatus.

So long as a fistula or even exterior caries keeps the condition circumscribed and hearing is conserved the radical operation alone is often sufficient. When, however, hearing has already been destroyed there is no reason for sparing the vestibule or canals and thus taking chances on recurrence or new lighting up of the labyrinth infection.

To drain by the vestibule alone seems to me to invite further trouble unless it is distinctly shown that a fistula exists, perhaps through the promontory, or the cochlea that is carious. When infection has entered through the oval window there is every reason to believe that it is better to drain the canals as well as the vestible. At any rate, whichever operation is decided on, the patient should be closely watched for several weeks and if necessary the more extensive operation should be done.

RESULTS

I believe with others—Politzer, Jansen, Alexander, Neuman, Barany, etc.—that the operation is not in itself dangerous but patients often die from too long delay. The results ought to be uniformly good barring complications.

Serous labyrinthitis sometimes occurs after a radical operation which has most of the symptoms of the suppurative variety with deafness to all sounds but the high forks, and recovery is complete in a week or ten days, without interference.

Intercurrent attacks no doubt occur in fistula or as a forerunner of later and more severe infections.

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ABSTRACT OF DISCUSSION

Dr. J. Holinger, Chicago: Before we irredeemably destroy a patient's labyrinth, we ought to make a more careful examination of the real condition. For example, Dr. Cott says: "The first patient complains of dizziness for a short time and is sometimes awakened in the night with an attack." All these things can be produced by simple occlusion of the tube. For instance, I saw a woman of 54, four times, at intervals of one week, and every time she had these same symptoms, dizziness, vertigo, vomiting, headache, swelling over the mastoid, pain on pressure. She could not stand on her feet; could not walk from the bed to a chair. On simple inflation with the Eustachian catheter she was relieved and without help walked back to her room. Afterward a surgeon was called and he promptly operated. Six weeks after that I saw the patient again, the wound was not healed, and all the symptoms were just as before. I took her to the hospital and gave her about eight catheterizations of the tube. Her condition improved promptly. I repeat, therefore, that all symptoms the Doctor mentioned do not prove affection of the labyrinth, and do not justify its destruction. They may be caused by occlusion of the tube.

In the second case there is nothing said as to the findings of the drum dead, nothing as to the pulse and temperature. Therefore, we unfortunately are not able to judge whether the Doctor's diagnosis and indications for operation are correct. The proofs of labyrinthitis in these cases I do not think have been given. The hearing tests are absolutely left out and I think if we want to know anything about the labyrinth we must have complete hearing tests.

Dr. Cott: There was no hearing.

Dr. Holinger: Hundreds of people have been treated as deaf mutes and then we find they do have considerable hearing after proper tests are made. I do not believe that from this paper we can get clear ideas on the subject. We have to study and digest carefully every point of this difficult question. The paper shows that the whole question of surgery of the labyrinth is much more complicated than it looks at first sight. The entering of the labyrinth with our instruments destroys every function of this most necessary and interesting organ, it involves a mutilation of the patient which ought not to be undertaken unless every means have been tried to avoid it. Conservative methods will often preserve a useful quantity of hearing otherwise destroyed in over-zealous attempts at radical surgery which is not indicated in slowly progressing chronic suppurations, since they usually have time enough to limit themselves.

Dr. J. R. Fletcher, Chicago: I have read the presessional print and listened to the reading of this paper. It is one certainly not to go unchallenged. The essayist speaks of labyrinthitis without the presence of labyrinth symptoms, or if present, overlooked. They must have been overlooked, as nystagmus, at least, is always present, from the very beginning of a labyrinthitis. Some form of labyrinthitis can be diagnosed from this symptom alone, when the disease follows a chronic suppurative otitis media. In the initial stage of labyrinthitis, and so long as it remains circumscribed, attacks of nystagmus will occur, varying in duration and severity. The quick movement is directed to the diseased side and not to both sides, as stated by Dr. Cott. When the irritability of one labyrinth has been decreased by the disease becoming diffuse, the nystagmus changes its direction to the sound side, but can at this time be reproduced toward the diseased side also by irrigating the tympanic cavity with warm water; the nystagmus directed to the sound side, however, will be the stronger. Spontaneous vestibular nystagmus directed toward both sides is of intracranial origin. Usually the nystagmus of intracranial origin is directed to the diseased side. The difference between nystagmus of intracranial and that of labyrinthine origin is that the intracranial appears relatively late in the disease. When the nystagmus, after changing from the diseased to the sound side, at the time of destruction of the labyrinth, swings back to the diseased side, meningitis or abscess in the posterior fossa may at once be diagnosed.

In all these cases the nystagmus is of the rhythmic vestibular type, as contradistinguished from the undulating, or ocular type. The rotary element is always present, though the nystagmus may be compound, that is involving more than one plane. The important symptom of nystagmus is sometimes overlooked because the eye is not observed in the extreme lateral position. The nystagmus may be so slight that unless this is done it is not seen. If we remember that one of the characteristics of the vestibular type is that it is increased by looking in the direction of the quick component and decreased or stopped completely by looking in the direction of the slow component, the symptom will not be overlooked. Before Bárány insisted on thus examining the eyes, a number of competent observers had reported the absence of nystagmus in cases in which it must have been present. It is on this account, and because of my great interest in the subject that my remarks have been confined to nystagmus. The mention of the presence of nygstagmus without stating its direction and plane is of no value.

Dr. Philip D. Kerrison, New York: Dr. Cott's paper seems to me to be in some respects misleading, and for the following reasons: In the first place, the symptoms he recounts in the two histories given are not those usually regarded as justifying a diagnosis of labyrinthitis; and, second, the operation described in connection with the second case is not generally held to be advisable. In discussing these histories, we must consider what positive symptoms are mentioned, and their value as pointing to labyrinthitis.

In Case 1, the patient was a woman, 40 years old, pale and hysterical. As positive symptoms we are told that (1) "she had had attacks of dizziness," (2) she had occasionally vomited and (3) there had been attacks of syncope. She had no spontaneous nystagmus. Attacks of dizziness without nystagmus are not characteristic of labyrinthitis. Vomiting is usually a symptom of the onset, continuing fairly constantly for a day or two, then stopping wholly. Attacks of syncope are decidedly not characteristic of labyrinthitis. In this case the caloric test was followed by great excitement and screaming, and also caused nystagmus and disturbed equilibrium. The excitement and screaming are characteristic of hysteria, while the nystagmus and ataxia must be regarded as evidence of an intact labyrinth. The symptoms in this case do not indicate suppurative labyrinthitis.

In Case 2, a girl of 16 years, on whom a mastoidectomy had been performed two years previously, came to the office complaining of dizziness, and could not stand except with feet well apart. There is no mention of spontaneous nystagmus; and no caloric test was made. Rotation produced nystagmus; it always does if one labyrinth is intact. If in this case the caloric reaction had been tested and found absent, we would have had something to go on. As it is, I can find no symptoms justifying a diagnosis of labyrinthitis.

In Case 2, Dr. Cott, owing to an accidental opening of the lateral sinus, did not open the vestibule, contenting himself with opening the cochlea by removing the promontory wall. This is not considered ever to be justifiable. Hinsberg, Jansen, Neumann, Bárány, Richards—all who have done recognized work in labyrinthitis—agree that the vestibule should always be opened. This constitutes one of the first essential points of the operation, its importance resting on two facts, viz.: (1) that it secures free drainage from the vestibule, which is always involved in suppurative labyrinthitis, and (2) that it enables the surgeon to destroy the membranous structures of the vestibular apparatus, which is an essential point in controlling permanently vestibular symptoms.

Dr. S. MacCuen Smith, Philadelphia: When it comes to treatment, I believe, as in all other cases, the first thing is to make our diagnosis, and this, notwithstanding our tests, is often very difficult to accomplish in this class of cases. In some instances it might appear that these patients would require operation, and yet a great many will recover spontaneously if we perform the radical mastoid operation and then treat the case by more simple methods, so that, notwithstanding Dr. Cott's brilliant results, I would offer a plea for considerable conservatism in most of these cases, especially at the hands of those more or less inexperienced in this line of work. I was interested in noting that the majority of his cases come from the recurrent type of suppurative otitis media. In my experience, the majority of intracranial complications arise from this particular form of disease.

Dr. George Shambaugh, Chicago: This discussion has brought out several points which it is well to have emphasized. The first is that the interpretation of labyrinth symptoms and the correct diagnosis of labyrinth conditions is by no means a simple matter. To make such a diagnosis, a clear understanding of the physiology and of the pathology of the labyrinth is necessary. The second point that the discussion has emphasized is that the practice of otology is a good deal more than the application of the principles of general surgery to the mastoid region. To carry out successfully the surgical measures necessary to relieve complications in and about the mastoid, the middle ear, and the labyrinth, requires not only skill in carrying out the difficult technical examinations of the ear, but requires also an intimate acquaintance with the complicated anatomic relations of this part. The tendency of the general surgeons to undertake aural surgery is to be deprecated for the reason that they are not trained in otologic technic and can seldom make an accurate diagnosis, nor have they as a rule mastered the anatomic details of this region, without which serious injuries are readily caused.

Dr. Otto Glogau, New York: It is important to have all or at least most of the symptoms before we consider operation on the labyrinth indicated; nystagmus, impairment of hearing, disturbances of equilibrium, dizziness, nausea, fever, etc., and it is especially important to have the tuning fork test. I would like to mention one case in which all the symptoms were present and yet there was no suppuration of the labyrinth. They were the so-called pressure symptoms. The indication for operation was there and only by opening the neo-membrane which had formed in place of the destroyed drum and the evacuation of the pus was the diagnosis made. It is probably not well to be too conservative. I saw one patient who had been operated on for mastoiditis and after a few weeks developed symptoms of labyrinthitis. The man was not examined properly and by three physicians a diagnosis was made of cerebral tumor. I operated on the patient's labyrinth and now, some months after, he is all right. I would impress on you that in the Mount Sinai Dispensary we now examine every case of suspicious chronic suppurative otitis media for the so-called labyrinthine symptoms, which are very important because often we can detect a starting involvement of the labyrinth before there is a more serious complication. When all the symptoms have developed it is almost too late for treatment. I think it would be very interesting if every case of chronic suppurative otitis media were examined in this way.

Dr. F. I. Brown, Chicago: I would like to speak of a case somewhat parallel to the one reported by the last speaker. It is impossible to judge from any one case just what should be done. We must have a collection of cases before we can arrive at any definite conclusions. This was a case which would have been put down as one of operative labyrinthitis. A radical mastoid was done and in three months' time the patient came back for internal operation. During the interval there was no cessation of symptoms but they all progressed steadily and the man begged for relief. The second operation gave immediate relief. I was present at both of Dr. Cott's cases. It seems to me that with a rapidly progressive perilabyrinthitis Dr. Cott was justified in operating. The great lessons for us to learn are not so much when to operate as when it is best not to do any operation at all on the middle ear without at the same time operating on the internal ear.

Dr. B. A. Randall, Philadelphia: One will find that with the personal equation that is so important in the examiner there is also a large personal equation in the examined, and hysterical and other elements may largely complicate the findings; and one need but turn to the studies in the Vienna Otologic Society to see that these men who rank as experts find many difficult cases and that it is not all plain sailing for them. The matter is difficult and will remain so.

Dr. G. F. Cott, Buffalo: I wish to thank the gentlemen who criticized me most severely and most adversely. It is a good stimulus and will help a man to do better work. Dr. Brown and I went into these cases very thoroughly during the last eight months and were satisfied with what we were doing and that it was right to operate. I simply wanted to give an idea in my paper how to make a diagnosis in these cases of infectious labyrinthitis due to suppuration of the middle ear. Dr. Kerrison has given a paper on this subject which took into consideration almost the entire category of symptoms. I therefore left out most of the theoretical part.

Dr. Holinger claims that these symptoms may be present with Eustachian tube occlusion; that is impossible, so far as the labyrinthine vertigo is concerned. I know of two patients treated expectantly because of the mistaken idea that the symptoms might be due to some other cause and both patients died. Perilabyrinthitis and endolabyrinthitis have absolute and definite symptoms and must not be mistaken for anything else.

Jansen is the only man who has had any great experience with suppurative labyrinthitis, having operated over 100 times with a death rate of 20 per cent. Such a mortality will be cut down very much with the more definite symptoms to guide us.

I do not lay any stress on temperature; the probabilities are that one will have no rise of temperature or a very little. I am familiar with the work in Vienna, having visited that city last year and gone over the matter thoroughly. As to the cholesteatoma deciding the diagnosis, it did not, but it decided that if I did not operate the patient would sooner or later succumb. I did not drain the vestibule in this young patient because after I had punctured the lateral sinus I could not remove enough bone to lay the vestibule bare; therefore I took off a part of the posterior and horizontal semicircular canals and opened through the oval window. This course was justified, as the result shows.

PEMPHIGUS NEONATORUM, OR BULLOUS IMPETIGO CONTAGIOSA OF THE NEW-BORN*

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Pemphigus neonatorum was first described as an independent disease by Oehme in 1773. Previous to that time it had been confounded with syphilis, and until almost the middle of the last century there were many who still considered it as syphilitic in origin. Writers on the subject gave prominence to the bullous character of the affection, to its frequent occurrence in epidemics—especially in obstetric wards, foundling asylums, and in the practice of midwives—and to its variable course, benign in some instances, and in others presenting an alarming mortality. The latter observation early led to its division into a benign and malignant form. The possibility of a transference of the disease from infants to other children or to adults was also noted, and many writers observed that transmission to older children or adults resulted in a decided change in the clinical character of the affection. This alteration in character is striking; it appears strange that it has not aroused more attention until a comparatively recent date.

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Although many instances of an association of pemphigus neonatorum and impetigo contagiosa have been recorded, the possible identity of the two affections has not been given sufficient prominence in English dermatologic literature. In fact, a review of recent contributions to this subject shows that many entirely overlook or disregard the existence of any relation between the two diseases, so that a discussion of the question at this time is justified.

Pemphigus neonatorum is a contagious disease which affects the new-born at a variable period after birth and is characterized by the rapid development on various parts of the body surface, usually on an erythematous base, of more or less numerous flat vesicles or semiglobular bullæ with clear or purulent contents, which rupture readily, leaving a moist, red, smooth, generally circular defect in the uppermost layers of the epidermis, usually with extensive undermining at the periphery, and which heal without a scar; any constitutional symptoms, if present at all, being a result of the denudation of extensive portions of the body surface, or due to supervening infection, rather than an integral part of the disease.

It often appears in epidemic form, especially in foundling asylums, obstetric wards, or in the practice of midwives; and isolated instances of its appearance are frequent. The recognition of a benign and a malignant form is based on the observation that in some instances but few lesions develop and a correspondingly small extent of the cutaneous surface is involved, constitutional symptoms are entirely absent, and rapid healing occurs; while in other cases the disease develops with extraordinary rapidity and affects almost the entire cutaneous surface, the infant succumbing often within a day or two after the first manifestations of the disease. It is a remarkable fact that in these rapidly fatal cases there is often but little evidence of constitutional disturbance. Evidences of constitutional involvement are occasionally found, however, in a rise of temperature, diarrhea, or symptoms of general exhaustion.

Fehling[1] says that the appearance of fever is indicative of complications, such as furuncles, abscesses, and follicular intestinal catarrh.

Among the cases that have contributed to the establishment of the so-called malignant form, in which constitutional symptoms are generally present to a marked degree, are many that do not properly belong here, as they are bullous exanthemata occurring in the course of septic conditions. Such are the cases of Staub,[2] in which the mother had pyemia; Peter,[2] in which the mother suffered from puerperal sepsis, and the *Staphylococcus aureus* and *albus* and a diplococcus were found in the circulating blood of the infant, and Prissmann,[3] who remarks that his case of malignant gangrenous pemphigus neonatorum may be a genuine septic process.

Bullous eruptions in the new-born appearing in the course of septicemic conditions originating in the infected umbilicus are likewise to be excluded from among the cases of pemphigus neonatorum, as they are also septic eruptions. Trautenroth's[4] case of pemphigus neonatorum periumbilicalis, in which a ring of bullæ surrounded the purulent remains of the cord, is the result of local infection and probably similar in nature to impetiginous lesions that form about the mouths of children with a purulent nasal secretion.

The disease at one time appeared in epidemic form very frequently; asepsis and antisepsis are responsible for its comparative rarity at the present time, though occasional reports of small epidemics are found in recent literature. The contagious character of the disease was recognized early, and there is no lack of reports of its occurrence in epidemics. An epidemic of "pemphigus acutus," affecting ninety-four infants in the Leipsic Obstetrical Clinic, was reported by Moldenhauer[5] and was in all likelihood a continuation of an epidemic of "pemphigus contagiosus" reported by Klemm,[6] in which twenty-six cases occurred, chiefly among older children. From the description of the epidemics it can reasonably be assumed that they were instances of impetigo contagiosa. Faber declares that, had impetigo been known as such, these would have been called impetigo.

The epidemic described by Almquist,[7] in which of 216 children born in the maternity at Göteberg during a period of three and a half months 134 developed pemphigus neonatorum and none died, was probably in largest part impetigo contagiosa. Small epidemics without fatalities have been described in this country by Kilham.[8]

In 1890 Knut Faber observed a case of pemphigus neonatorum that was directly traceable to an impetigo contagiosa on the face of the mother; another infant, nursed by the same woman, developed pemphigus neonatorum and caused an impetigo contagiosa on its own mother's face. In an analytic paper on the reported cases Faber[9] declares the two diseases to be identical, and the variation in the clinical manifestations dependent on the age of those affected. Jonathan Hutchinson[10] observed an epidemic in the maternity of a workhouse, which was called "pemphigus" by the house physician because of "its distinct vesicating character." He concluded, however, that "the cases are of the same nature as those to which the term impetigo contagiosa has been given." Matzenauer[11] likewise considers pemphigus neonatorum and impetigo contagiosa to be identical diseases. He observed that pemphigus neonatorum developed in an infant whose mother was affected with impetigo contagiosa. Carefully conducted bacteriologic and histologic examinations of both diseases gave identical results.

Grindon[12] reports a fatal case of impetigo contagiosa bullosa, the infant having contracted the disease from the father, who was affected with impetigo contagiosa. The clinical description is entirely that of a malignant form of pemphigus neonatorum. "Besides the father, a brother, aged 4, a sister, aged 3, and the nurse in attendance on the infant contracted the affliction in typical form."

A most exhaustive study of the literature of pemphigus neonatorum has been made by Richter,[13] who concludes that pemphigus neonatorum appears to stand in etiologic connection with impetigo contagiosa.

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1. Fehling: Arch. f. Gyn., vi, 388.
2. Staub: Berl. klin. Wchnschr., 1893, p. 49. Peter: Berl. klin. Wchnschr., 1896, p. 124.
3. Prissmann: Petersburg. Med. Wchnschr., 1903, p. 503.
4. Trautenroth: Dissertation, Marburg, 1892.
5. Moldenhauer: Arch. f. Gyn., 1874, p. 369.
6. Klemm: Deutsch. Arch. f. klin. Med., 1871, p. 199.
7. Almquist: Ztschr. f. Hyg., 1891, p. 253.
8. Kilham: Am. Jour. Obst., 1904, p. 473.
9. Faber: Monatsh. f. prakt. Dermat., 1890, p. 253.
10. Hutchinson: Arch. Surg., 1892, iii, 206.
11. Matzenauer: Wien. klin. Wchnschr., 1900, p. 1077.
12. Grindon: Jour. Cutan. Dis., 1901, p. 190.
13. Richter: Dermat. Ztschr., 1901, p. 507.

Whitfield[14] observed the development of a lesion of impetigo contagiosa on the forehead of a mother two days after her child had become affected with pemphigus neonatorum. Pemphigus neonatorum and impetigo contagiosa are considered by him as identical.

Engmann[15] speaks of "eight cases of typical bullous impetigo in infants," and appears to believe in the identity of the two diseases.

Hengge[16] describes a small epidemic in which the original source of infection was the lochial discharge of a mother, vesicles and small furuncles developing in the anal cleft. This woman's child developed pemphigus. The wet-nurse contracted the disease on both breasts and transmitted it to two other infants. A fourth child exhibited in clinic (to demonstrate the compression of the skull following delivery through a narrow pelvis) in conjunction with one of the pemphigus cases, two days later developed an eruption of pemphigus vesicles limited to the scalp. In the first five cases numerous small furuncles developed one to three days after the vesicular eruption, and in the two cases these were the most prominent part of the clinical picture. In all six cases the *Staphylococcus aureus* was found in pure culture in the vesicles and furuncles. Hengge remarks that the combination of pemphigus neonatorum and furunculosis points to an intimate relation between pemphigus neonatorum and impetigo contagiosa.

Others (among them Löwly, Luithen, Clegg and Wherry) have contributed similar observations, and there now appears to be sufficient evidence at hand to warrant insistance on the proper recognition of pemphigus neonatorum as simply a bullous infantile variant of impetigo contagiosa and elimination of the confusing term "pemphigus" when this affection is under discussion.

Of especial interest is the occurrence of epidemics in families, for under these conditions the variation in the clinical picture of the infection as it assumes the characteristics of impetigo contagiosa or those of pemphigus neonatorum are best observed. Among the many reported instances of contagion in families Grindon's[12] observation of the development of pemphigus neonatorum in an infant whose father was affected with impetigo contagiosa and spread of the impetigo to two other children, as also the development of typical impetigo contagiosa in the nurse (who presumably contracted the disease from the infant), is a most striking evidence of the identity of the two diseases. Within the past six years I have had the opportunity of observing thirty-four cases of pemphigus neonatorum. In several instances members of the family or the nurse in attendance developed typical lesions of impetigo contagiosa on the arms or the face—an infection undoubtedly attributable to contact with the infant.

Olson[17] directs especial attention to his observation that the lesions in the infant first appeared on the neck and at the border of the pectoralis major muscle—regions which were pressed by the arms of the midwife, who probably conveyed the infection; and also, that the primary lesions were located on the midwife's forearms, on which the child rested during its bath. Although most of the cases observed by me occurred in the practice of midwives, among whom it is customary to attend personally to the infant's bath, I was never able to trace such direct connection.

Experimental inoculations, performed to reproduce the disease or for bacteriologic purposes, have been frequently made, and almost exclusively on adults. Direct inoculations with the contents of blebs have resulted in the formation within a variable number of hours, on an erythematous surface, of single vesicular lesions, with clear contents rapidly becoming turbid, and often pustular, and drying into crusts. Numerous inoculations have been made with pure cultures of micro-organisms obtained from the lesions, with varying results. In some an erythema was produced at the site of inoculation, others succeeded in producing vesicles or blebs. Engmann[15] inoculated into the skin of his arm the third generation of a pure culture of *Staphylococcus aureus* obtained from cases of typical bullous impetigo in infants. "Within two days a clear vesicle had formed . . . from which was obtained a pure culture of the . . . same organism inoculated."

Several inoculations into the skin of my own arm of the serous and purulent contents of blebs from cases of pemphigus neonatorum, and one inoculation of a pure culture of *Staphylococcus pyogenes aureus* grown on blood serum, were uniformly negative.

Midwives as carriers of the infection have received the attention of most writers, and, in fact, the majority of the recorded epidemics occurred in the practice of midwives or originated there. Moldenhauer,[5] in his report of the epidemic previously mentioned, in which 96 infants were affected, instances infections by midwives in the institution. Dohrn[18] reports that a midwife had 27 cases among 114 births and carried the infection to a maternity in another city. Wichmann[19] reports 22 cases of infants delivered by the same midwife. Zechmeister[20] observed an epidemic affecting 28 of 76 infants delivered by a midwife, who continued to spread the disease for more than a year. Almquist[7] reports 7 cases in 21 infants born under the care of one midwife; Platon,[21] 25 cases; Jukowsky,[22] 12 cases; Brosin,[23] 18 cases in a total of 64 confinements by two midwives.

In the United States this mode of spread is less frequent. Corlett[24] reports 2 fatal cases in the practice of one midwife. I have had the opportunity to observe 34 instances of the disease in Milwaukee. Four occurred in the practice of one midwife, 2 in the practice of another, and most of the remaining 28 were isolated cases in the practice of various midwives. During my attendance on these cases I learned of numerous other instances of the disease, usually in the practice of the same midwife who had attended the confinement of the mother volunteering the information. Milwaukee is a city with a large proportion of German and Polish inhabitants, who are very partial to midwives. Of the total of 7,546 births in the city during 1904, 4,354 were reported by midwives and 3,192 by physicians, which may account for the relative greater frequency of pemphigus neonatorum in Milwaukee. One midwife informed me that she had been "followed by the disease" for several months in spite of all her attempts to overcome the infection. After she had provided herself with entirely new clothing and a new obstetrical outfit the disease disappeared from her practice.

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[14] Whitfield: Brit. Jour. Dermat., 1903, p. 218.
[15] Engmann: Jour. Cutan. Dis., 1901, p. 180.
[16] Hengge: Monatsschr. f. Geburtsh. u. Gyn., 1904, xix, 53.
[17] Olsen: Abstr in Centralbl. f. Dermat., 1900, p. 137.
[18] Dohrn: Arch. f. Gyn., 1876, p. 589; 1877, p. 567.
[19] Wichmann: Abstr. in Arch. f. Dermat. u. Syph., 1888, p. 423.
[20] Zechmeister: München. med. Wchnschr., 1887, p. 737.
[21] Platon: Abstr. in Centralbl. f. Dermat., 1900, p. 137.
[22] Jukowsky: Abstr. Brit. Jour. of Dermat., 1891, p. 368.
[23] Brosin: Ztschr. f. Geburtsch. u. Gyn., 1899, p. 418.
[24] Corlett: Am. Jour. Med. Sc., 1894, p. 413.

The persistence of the disease in institutions and the practice of midwives for prolonged periods is an evidence of the ability of the causative agent to resist ordinary destructive influences. Reports of the tenacity with which it adheres to wearing apparel are furnished by Scandinavian writers. Wichmann[19] traced the origin of an epidemic in which 22 infants were affected to the woolen mittens of a midwife, in which the infective agent was harbored for a long period. During this epidemic five persons were infected by the use of the same sponge. Holst[25] also attributes the origin of an epidemic affecting five children to the midwife's infected woolen mitten. The midwife had had three cases of pemphigus neonatorum, after which the mitten was put away for a year. Shortly after it was used again the new case developed. Erichson[26] relates the case of a midwife in whose practice pemphigus neonatorum was epidemic. The health board insisted on a thorough disinfection and provided her with new clothing; the discarded garments were packed in two boxes. The epidemic ceased, but after a time reappeared. It was found that one box had been broken open, and Erichson believes that the disease started afresh whenever the midwife removed an old dress from the box. Experiments conducted by Almquist[7] proved cultures of the micro-organism obtained from bullæ, when dried on silk threads, to be viable after one and one-half months.

The frequency with which pemphigus neonatorum occurs in the practice of midwives, and its frequently high mortality rate, have led some writers (Zechmeister,[20] Hengge,[16] Bloch[27]) to advocate compulsory notification of the disease by midwives, and the immediate report of all births attended by midwives who have recently had cases of pemphigus neonatorum. The revised Prussian text-book for midwives (1900) instructs the midwife concerning the contagious character of pemphigus neonatorum and makes it obligatory to report at once to the district physician any case occurring in her practice.

Some sort of municipal control ought to be established over the disease as it appears in the practice of midwives. It is desirable, in my opinion, to secure the establishment of a municipal ordinance requiring midwives to notify the health authorities of all cases of pemphigus neonatorum appearing in their practice and the immediate report of all births attended by midwives who have recently had cases of the disease.

Although a large majority of the cases encountered are benign in character, the disease in some instances shows a mortality rate that is appalling. Zechmeister reports 28 cases, with 6 deaths; Wichmann, 22 cases, 3 deaths; Janovsky, 12 cases, 4 deaths; Brosin, 18 cases, 7 deaths; Platon,[21] 25 cases, 12 deaths; Host, 5 cases, 2 deaths. Of the 34 cases observed by me 5 ended in death. A disease which at times has a mortality rate of between 10 and 50 per cent. and which is to a large extent preventable is a proper object for municipal control.

Numerous attempts have been made to associate a definite micro-organism with the disease as its causative agent. The results of different investigators are, however, not in accord. The *Staphylococcus pyogenes aureus* in pure culture in the contents of vesicles or bullæ has been found by Hengge, Brosin, Löwly. Maguire,[28] Call, Engmann and Matzenauer. Almquist isolated a diplococcus from the contents of the bullæ, which in its growth on artificial media closely resembles the *Staphylococcus aureus*, but when inoculated into the skin produces bullæ. He considers this organism to be the causative agent and named it *Micrococcus pemphigi neonatorum*. Clegg and Wherry[29] made a bacteriologic study of five cases in the Civil Hospital at Manila, and in all cases isolated the micro-organism described by Almquist. Inoculation of the skin with the organism resulted in the production of several small vesicles. Some investigators, Bloch, Whitfield[14] and McLeod[30] have found the *Streptococcus pyogenes* in pure culture.

In those of my cases in which material for bacteriologic examination was obtainable, the *Staphylococcus pyogenes aureus* was found in pure culture. In the case of an extremely marasmic infant of six months, weighing but five pounds, numerous flaccid bullæ of quarter-dollar size, with semipurulent contents, developed rapidly in various localities. Pure cultures of *Staphylococcus aureus* were obtained. Within twelve hours several bullæ became hemorrhagic and their bases were converted into a pulpy mass, forming deep, punched-out ulcers. Numerous small tense bullæ then appeared, all with hemorrhagic contents. Cultures showed the presence of the *Bacillus pyocyaneus*, rapidly overgrowing the *Staphylococcus aureus*. The infant ultimately recovered, although the postcervical, axillary and inguinal lymph glands sloughed, and portions of the skull, ribs and sacrum were exposed in the floor of the ulcers.

At the present time it appears impossible to bring any one organism into causal relation with the disease.

A similar condition of uncertainty exists in connection with the bacteriology of impetigo contagiosa, which may be produced by either the common staphylococci or streptococci—most often by the former.

Leaving out of consideration the failure of bacteriology definitely to establish the identity of pemphigus neonatorum and impetigo contagiosa, there appears to be enough other evidence at hand to warrant classing them as identical diseases. To the anatomic and physiologic differences between the skin of the new-born and that of older children and of adults can be ascribed the variation in clinical appearance. With increasing age of the child an almost parallel decrease occurs in the severity of pemphigus neonatorum—as regards the extent of surface involved, number and character of the lesions, their rapidity of evolution—and the disease presents progressively less danger to life. It assumes the characteristic features of impetigo contagiosa, among which is the tendency to crust formation. Pemphigus neonatorum can only be regarded as a bullous, infantile variant of impetigo contagiosa, and not as an independent disease.

The treatment of greatest efficiency in my experience is, with some modification, the same as that which may be regarded as specific in the impetigo contagiosa of adults. The vesicles or bullæ are drained, the edges of the lesions are thoroughly exposed, and the entire base is freely anointed with 2 per cent. ammoniated mercury ointment. The lesions are dressed with gauze and cotton, and individually thus isolated. Mercurial intoxication has not occurred in my experience, even when extensively denuded areas were treated in this manner. To secure asepsis of the uninvolved surface the infant is bathed in a warm permanganate solution and sponged with the solution whenever the dressings are changed.

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25. Holst: Centralbl. f. Dermat., 1900, p. 136.
26. Erichson: Centralbl. f. Dermat., 1900, p. 137.
27. Bloch: Arch. f. Kinderh., 1900, xxviii, 61.
28. Maguire: Brit. Jour. Dermat., 1903, p. 427.
29. Clegg and Wherry: Jour. Infect. Dis., March, 1906, p. 165.
30. McLeod: Brit. Med. Jour., 1903, p. 1278.

External heat with strychnin and brandy in full doses are indicated as supporting measures if the disease is at all extensive.

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ABSTRACT OF DISCUSSION

Dr. John A. Fordyce, New York City: It does not seem to me that sufficient attention has been given to the investigations of Sabouraud, which led to the conclusion that these lesions were due to the streptococci and not to the staphylococci. His inoculation experiments invariably gave a growth of streptococci. Afterward the lesions became contaminated with the *Staphylococcus aureus*, and mixed infection resulted. The clinical history of these cases point to a definite and distinct entity, different from the ordinary staphylococcus infection. We are indebted to Dr. Foerster for calling our attention to the identity between acute contagious pemphigus of the new-born and the impetigo contagiosa of older children.

Dr. Douglas W. Montgomery, San Francisco: I have long thought that in this bullous form of impetigo contagiosa the formation of bullæ was due to the fact that the skin of the baby is very tender, and furthermore, to the heat to which these children are often exposed. I am led to believe that in warm countries impetigo contagiosa in adults is more liable to assume a bullous form, than in cooler climates, like San Francisco. I have long believed that these two affections, acute contagious pemphigus and impetigo contagiosa, were identical. In San Francisco we do not often see acute bullous impetigo, but we do see pemphigus neonatorum. In the Philippines and in other hot countries bullous impetigo is common in adults.

Felix Lewandowsky of Hamburg, in a recent number of the *Arch. für. Dermatologie*, has reported a large number of cases of impetigo contagiosa in which the causative agent was the streptococcus, not the staphylococcus. I think that in all probability, from the nature of the disease, that it will be found to be of streptococcus origin. It would be very remarkable if the staphylococcus would give rise to such marked disease entities as impetigo contagiosa and bullous impetigo.

Dr. M. B. Hartzell, Philadelphia: I think since we all agree that these cases are really impetigo contagiosa occurring in very young infants, we ought once and for all to dispense with the name pemphigus neonatorum. I recently saw a small epidemic of this in a maternity hospital. In this epidemic, the eruption was originally regarded as bullous syphilide. A number of these babies died: I think in practically 50 per cent. of those attacked there was a fatal termination. I have seen very large bullæ in adults. That is probably a matter of the severity of the original infection and the nature of the soil. The very delicate soft skin of the new-born infant apparently offers a suitable soil for the growth of the infecting organism.

Dr. C. F. Knowles, Philadelphia: There has recently been an epidemic of thirty cases of this affection in one of the public institutions in Philadelphia. Of the infants attacked, ten died. Cultures showed streptococci in some of the lesions, staphylococci in others.

Dr. W. A. Pusey, Chicago: Last winter there was an epidemic of impetigo contagiosa of the new-born in the maternity ward of one of the hospitals in Chicago. In a group of 16 cases there was a mortality of over 30 per cent. In my opinion, it is as irrational to hope to identify one definite pus organism in these pus infections of the skin as it is in pus infections generally. I have no doubt that impetigo may be produced by all of the different kinds of common pus organisms.

Dr. George Pernet, London, Eng.: I have long been familiar with the identity of pemphigus neonatorum and impetigo contagiosa. Many years ago I was asked to see a child with a supposed bullous syphilide. I found instead a bullous form of impetigo contagiosa, while three other members of the family had evidences of impetigo lesions about the face. In the ambulatory cases of this affection the patients generally recover, and I have not seen many cases that terminated fatally. This may be different in institutions, but in ordinary hospital practice and in the out-patient department one does not find that these are very bad cases, as a rule.

Before Sabouraud labeled the streptococcus as the causative factor, I examined several of these lesions and always found the streptococcus. Sabouraud insists that we must get a very early pin-point lesion and from that get the streptococcus, and I think that is generally admitted, although he also insists on cultivating the germs on a fluid medium, while I cultivated them on a solid medium. If the organism be cultivated in bouillon, there will often be a general formation, but that does not label the organism as a streptococcus. It is generally accepted that these lesions are of streptococcus origin, although Matzenauer of Vienna did a lot of work on the subject and states that he has found the staphylococcus. I am inclined to agree with Dr. Pusey that a variety of pus-producing organisms may lead in some cases to impetigo contagiosa, as well as to other forms of bullous lesions. I recall reporting a household infection of this kind that followed pediculosis, with a development of bullous lesions in several of the cases.

MONGOLIAN IDIOCY*

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Several years ago I was called to attend a male child about 8 months old, suffering at the time from acute bronchopneumonia. This child had a peculiar facial conformation which then attracted my attention. Some weeks after my first acquaintance with him I saw another, somewhat older, but having such a remarkable resemblance to the first that it was difficult to believe that they were not brothers. These children were mental defectives of the Mongolian type. Since that time I have seen about thirty of these children in practice and in institutions in this country and in Europe. I wish now to discuss in particular this class of cases, which is comparatively common among us, although it frequently passes unrecognized.

In 1866 Dr. Langdon Down described a condition which was characterized by features which bore a remarkable resemblance to those of certain Mongolian races, particularly to a type indigenous to certain parts of Siberia, known as Kalmucks. On account of this resemblance he suggested the name Mongolian, or Mongoloid.

I wish to emphasize certain differential diagnostic features for the reason that I have known Mongolians to be mistaken for cretins by more than one good physician. In conversation with Dr. E. J. Emerick of the Ohio State Institution for Feeble-Minded Children I was told that Mongolian idiots repeatedly entered his institution with a diagnosis of cretinism. The recognition of Mongolism is important, in order that we may guard against dangers to which the child is peculiarly susceptible, and not discredit thyroid therapy by administering it where little benefit can be derived. The distribution is world-wide; no race is exempt. According to Shuttleworth, 5 per cent. of mentally defective children are Mongolian. In our own state institution I understand that the percentage is not so high.

As to the causes we know very little. From some resemblances to cretinism it has been suggested that it might be due to some vice in the thyroid function. Other observers state that it is most often seen in the last children of large families, or where the parents are over 40, or where the reproductive powers of the parents are impaired. This, however, is denied by many authorities. Alcoholism, tuberculosis, syphilis, and other disorders have been considered, but with few definite conclusions. They are evidently unfinished children and the Mongolian features are possibly an example of atavism.

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* Read before the Academy of Medicine of Toledo and Lucas County, May, 1908.

I shall consider first the most conspicuous characteristics. In a typical case, even at birth, there is a peculiar facial resemblance to a Chinese child; even a layman will often speak of it. This is due to the presence of an inner epicanthic fold and an obliquity, upward and outward, of the palpebral fissures. The bridge of the nose is flat and this causes the eyes to appear far apart, when in reality they are close together. The nostrils look forward; strabismus and nystagmus are common. In early life the skin is smooth and white. The cheeks are often ruddy. In smaller children, also, the hair is soft, straight and abundant. The ears are small and the lobules adherent. The mouth is open and the tongue often protrudes; this latter, I presume, is the chief reason for the commonly mistaken diagnosis of cretinism. The tongue is fissured and the circumvallate papilli are red and hypertrophied. The next characteristic that is seen constantly is the brachycephalic skull; this is nearly always seen. It is often so pronounced that the vertex, occiput and neck are all in the same plane. Goodhart and Still state that the skull is usually less than normal in circumference. Dr. John Thompson of Edinburg described some peculiarities of the hand which he considered quite constant. This consists of a shortening and incurving of the little finger. Dr. John Muir found this absent in 46 per cent. of his series. This deformity has been found to be not uncommon in all forms of idiocy. The fingers are all shorter than normal and taper at the tips; this in contradistinction to the stumpy finger-tips of cretins.

In addition to physical characteristics which are more or less constant, these children have frequently the various deformities of the imperfect and many of the stigmata of degeneracy. They are, when grown, short in stature; there is a deficiency of muscular tone and strength, and the limbs are soft and small-boned. Coordinate movements are not acquired early; the grasp is feeble; the child may not hold up its head until seven or eight months old, and not sit alone until a year and a half or two years old, or walk until four or five. The sutures are late in closing; the teeth are slow and irregular in developing; not uncommonly a molar may appear before the incisors. As in all mental defectives, speech is late in developing; the child may not talk until four or five years old. Such children are anemic and susceptible to diseases of the respiratory and gastrointestinal tract. Especially are they liable to pneumonia, bronchitis and later to pulmonary tuberculosis. A subnormal temperature as a rule exists and they are easily chilled. Dr. A. E. Garrod of London speaks of the extreme frequency of congenital heart disease among Mongolians. The mental development is very interesting. One might be misled into a too favorable prognosis unless made wary by experience. Mongolians are nearly always amiable and happy. If in a hospital they become the pets of the ward by reason of their cheerful dispositions. They are imitative to a marked degree. At this point I would like to suggest that this trait of imitativeness might be considered another point of similarity to the Chinese and Japanese races, among whom mimicry is a very marked trait. By reason of their cheerfulness and mimicry they are often given credit for more mentality than they really possess. They are always mentally dwarfed. The degree of mental deficiency varies with the subject. Some subjects with a proper education acquire a fair degree of intelligence; these, however, are the border-line cases. In the average case the reasoning powers remain at a low level.

The vital prospects are bad. Before adult life many succumb to tuberculosis or pneumonia. There is little in the pathologic anatomy which is characteristic. Some observers speak of central changes, such as antero-posterior shortening at the base of the skull and imperfectly developed occipital lobes, the whole brain being more coarsely convoluted than normal and having fewer secondary convolutions. Wilmarth reports five autopsies in which the brains were all of fair size, the pons and medulla being unusually small in all cases.

There is no specific medical treatment for Mongolism. Thyroid therapy is useless, although at first there is a slight apparent improvement. As to mentality, if advantage is taken of the child's ability to imitate, something may be accomplished. Much may be done to teach habits of cleanliness. Careful feeding, exercise and fresh air must be furnished to aid a constitution of feeble resistance to avoid and throw off disease. The approach of puberty is always an anxious period in the life of any mental defective and care should be exercised in reference to the abuses of the animal instincts when awakened. On account of the importance of a diagnosis, both of Mongolism and cretinism, I wish to emphasize graphically as possible the chief differential features of both these conditions.

COMPARISON OF CRETINISM AND MONGOLISM

CRETINISM	MONGOLISM
1. Characteristics seldom present before six months.	1. Present at birth.
2. Dull, passive infants, taking no notice of anything or any one. No active movements.	2. Smiling, active infants, imitative and observant.
3. Skin swollen and dry. Fat pads above the clavicle. Hair coarse and scanty.	3. Skin soft and fine. Hair straight, soft and fine in early life.
4. Skull normal in shape.	4. Skull brachycephalic.
5. Palpebral fissures horizontal, lids swollen, epicanthus not present.	5. Palpebral fissures narrow and oblique, no swelling of lids, epicanthus present.
6. Tongue protruding and swollen.	6. Tongue protruding but not swollen.
7. Lips thick and everted.	7. Lips normal in shape.
8. Fingers short and stumpy.	8. Fingers short and tapering. Little finger short and curves inward.
9. Thyroid absent or atrophied.	9. Thyroid normal.
10. Thyroid treatment beneficial if used in early life.	10. Thyroid treatment of no use.

REPORT OF CASE

Patient.—The child whom I wish to describe is a peculiarly attractive boy, 4 years of age, the sixth child in a family of seven. His brothers and sisters, of whom five are living, are all healthy, normal children. His mother was 35 years old when he was born, his father 38. During pregnancy his mother was not as well as with her other children; she had a cough during a considerable part of the time and was not so strong as usual.

History.—At birth the child weighed 8½ pounds. Labor was normal in every respect. Very soon after birth the family noticed a peculiar expression about the eyes, but the obliquity was not noticed until the boy was 7 or 8 months old. He was nourished at the breast, was in good health and developed normally until 8 months old, at which time he suffered from bronchopneumonia. Since that time he has taken cold easily and has had repeated attacks of acute bronchitis. He was able to hold up his head at about three months, but his neck seemed weak; this was more noticeable after his pneumonia. He was not able to sit erect until he was a year old. He did not creep or attempt to do so until he was 2, but would sit quietly and contentedly wherever he was placed; after this he began to creep and when 2½ years old he began to walk. One of his most noticeable traits is his happy, amiable disposition. His mother states that he is the best-natured child in the family; seldom quarrels with his brothers and sisters; even if imposed on, does not seem to resent it. He is not selfish and is willing to divide with the other children. He is cleanly in his habits and not destructive with his toys. The imitative trait mentioned previously is very noticeable; his parents spoke of it independently of any questioning. He imitates many of the actions of his parents and playmates with surprising accuracy, and is even now learning much of his speech by imitating his sister, who is but 2 years of age. He has a decided taste for music and takes much delight in playing with the piano. His speech is very imperfect; he speaks only a few words connectedly; he finds difficulty in making sentences longer than three or four words. His wants are made known chiefly by nouns; verbs he uses with difficulty.

Physical Examination.—Child, 37 inches tall; weight, 33¼ pounds. Complexion fair, hair straight and of fine texture, fontanels closed. Circumference of the head 19 inches, meatus to meatus 14 inches. Nose broad at base. Distance between eyes 1¼ inches. Epicanthus present. Palpebral fissures oblique. Nystagmus present and marked. No fat pads in axillæ or supraclavicular regions. Mouth held open, tongue protruding, but not swollen. Lungs normal at the present time. Heart normal. Little fingers both shorter than normal and curve inward.

Thyroid treatment has never been tried, the case being so clearly one of Mongolism that I felt it would be folly to use it.

810 West Central avenue.

NOTE.—The following authorities may be consulted on the subject:
Taylor: Nervous Diseases in Childhood and Early life.
Thompson: Clinical Examination and Treatment of Sick Children.
Goodhart and Still: Disease of Children.
Holt: Diseases of Childhood.
Koplik: Diseases of Infancy and Childhood.
Barr: Mental Defectives.
Ireland: Mental Diseases of Childhood.
Pfaundler and Schlossman: The Diseases of Children.
Allbutt: System of Medicine, viii, 236.
Waterson: Brit. Med. Jour., 1906, ii, 1701.
Neurath.: Wien. med Wchnschr., 1907, lvii, 1132.
Reavley: West. Canada Med. Jour., 1907, i, 450.
Baumann: Transvaal Med. Jour., 1906, ii, 107.
Sutherland: Practitioner, London, 1904, lxxiii, 821.
Sutherland: Lancet, London, 1900, i, 23.
West: Arch. Pediat., 1901, xviii, 918.

A CASE OF SUCCESSFUL REMOVAL OF A CEREBELLAR TUMOR *

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In a recent study Schuster, of Berlin, finds that about 15 per cent. of intracranial tumors are situated in the cerebellum.

In his work on brain surgery, published in 1893, Dr. M. Allen Starr collected 16 cases of cerebellar tumor in which operations had been done. In 11 of these cases the tumor was not found; of the other 5 patients, 3 died from the operation, and 2 cases the tumor was removed and the patient relieved. Writing again ten years later,[1] including his own personal experience up to that time, Dr. Starr collected 1,277 cases of brain tumor; of this number, he regarded 104 as operable. Among these 1,277 cases he found 58 cases of operations for cerebellar tumors. Dr. Starr gives table of operations for brain tumor (Table 1):

TABLE 1.—STARR'S TABLE OF OPERATIONS FOR BRAIN TUMOR

	No. Cases. Cerebrum.	No. Cases. Cerebellum.
Tumor found, removed, and patient recovered	154	16
Tumor found, removed and patient died	52	8
Tumor found, but could not be removed	22	12
Tumor could not be found	91	22
Total	319	58

Writing only two years later, in 1905, Mills and Frazier were able to collect reports of 116 cases of cerebellar tumors in which operations had been performed; and they estimate that in 15 per cent. of these cases there was "removal with recovery."

Dr. Frazier, from a study of these 116 cases, has constructed the following table:

TABLE 2.—FRAZIER'S TABLE

	Per Cent.
Tumors found	45
Tumors not found	55
Removal with recovery	15
Removal with improvement	13.9
Removal without improvement	0.9
Improvement without removal	13.9
No improvement without removal	13.9
Death when tumor was removed	12.9
Death when tumor was not found and removed	28.7

Comparison of statistics of successive dates, showing an increase in the percentage of recoveries and improvements and a reduction in the mortality, is given in *Table 3.*

TABLE 3.—COMPARISON OF STATISTICS OF SUCCESSIVE DATES

Results.	Frazier's. Table—1904. Per Cent.	Duret's. Table—1903. Per Cent.	Oppenheim's. Table—1902. Per Cent.
Recovery	15	14	7.5
Improved	28	25	7.5
Unimproved	15	0	13.0
Mortality	42	60	71.0

A comparison of the statistics of the total number of cases in Frazier's collection with the statistics of the last five years shows a manifest improvement in the results as illustrated by Dr. Frazier in Table 4.

TABLE 4.—RESULTS IN FRAZIER'S TOTAL NUMBER OF CASES COMPARED WITH CASES IN PAST FIVE YEARS

Results.	Total Number of Cases. Per Cent.	Cases Reported 1899-1904. Per Cent.
Recovery	15	24
Improved	28	28.5
Unimproved	15	11.0
Mortality	42	35.8

Dr. Frazier remarks:

> From a review of these tables one is struck at once with the progress that has been made in this field of surgery from every point of view. The percentage of tumors is yearly growing larger, the percentage of partial or complete recoveries is larger, and the mortality has fallen from 42 per cent. to 35.8 per cent. We believe that the results of surgical intervention on the cerebellar hemisphere will continue to improve, if not generally, at least in the hands of those who are giving this subject especial thought and attention.

We have gone over the table of 116 cases of cerebellar tumor collected by Dr. Frazier; and in doing so we are not able to note quite as high a percentage of cases in which the tumor was found and the patient recovered. From the study of this paper it appears to us that 10 per cent. of recoveries would be a fair allowance as against 15 which Dr. Frazier figures out. But these tables do indicate in a striking way that the mortality from the operations has been considerably reduced and the percentage of recoveries considerably increased in the last few years. In six cases in which Dr. Frazier operated the results were as follows:

> One died after the first stage of operation; two recovered after removal of tumor; one relieved after evacuation of cyst, no recurrence more than a year after the operation; one considerably improved after palliative operation; one no improvement; tumor not found.

Dr. Harvey Cushing, of Baltimore, as is well known, has made a number of special detailed studies of the operations for intracranial growths; being anxious to learn of his experiences in cerebellar operations up to date, we wrote to him, and he kindly responded with the following letter which sufficiently explains itself:

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Starr, M. Allen: Organic Nervous Diseases, 1903.

> The following summary is complete so far as I can tell from a fairly careful survey of the hospital files and my own private records. I have never had occasion to look these things up before as an especial group and there may be a few omissions.
>
> I have had thirty cases of known or presumed cerebellar tumor which have been subjected to the bilateral suboccipital operation which I favor through a "cross-bow" incision with permanent removal of the bone.
>
> In this series there have been two deaths that can be directly attributed to the operation, both of them among the early cases, one patient with a vascular tumor of the vermiform process operated on in a comatose state, who died from hemorrhage into the fourth ventricle; the other a patient with a benign cerebellar pontine endothelioma, who died from pneumonia on the seventh day. This was before the adoption of the cerebellar table with the shoulder-supports. These are the only cases in which there has been any operative complications of any kind. The wounds in all other cases have healed per primam.
>
> In eleven cases the tumor has been found and removed, or a simple (?) cyst evacuated.
>
> *Intracerebellar.*—More or less solid tumors, three; cysts evacuated, four.
>
> *Extracerebellar.*—Four.
>
> Tumors found and considered irremovable, with no improvement after simple decompression, two.
>
> Tumors not found, the operation resulting in a simple suboccipital decompression, twelve.
>
> In two cases from the latter group I have operated some months later at a second session and found and evacuated an intracerebellar cyst on each occasion. One of the patients was operated on elsewhere and a solid tumor, which was not apparent at the time of the first operation, was found and removed.
>
> It is my feeling that with a proper face-down position on a suitable operating table, with a skilled anesthetist and with a low operation with removal of the posterior half of the foramen magnum so as to get below the lips of the cerebellum and evacuate fluid before the dura is freely opened, these cases, contrary to the opinion that has been expressed by others, are favorable, if not more favorable, for operation as lesions of the cerebral hemisphere.

It is earnestly to be hoped that Dr. Cushing will, before long, publish his experience with cerebellar tumors in detail. For certainly the results he has attained should inspire us all with a more hopeful view of cases of this character.

In view of the experience of the immediate past these records of Frazier and Cushing are certainly most striking and noteworthy ones. And they abundantly indicate that there is a fair measure of chance for these poor patients suffering from cerebellar tumor when they are operated on by skilled surgeons who are specially trained for this work and who have their hearts in their work.

But not all investigators are able, like Frazier and Cushing, to see that the results of cerebellar operations are growing more favorable; and this other side of the case is well shown by Knapp of Boston.

Knapp[2] has made several studies of brain tumor from the standpoint of the operation. In a paper published recently (1906) he concludes from the study of 104 autopsies of brain tumor that only four were anatomically accessible and presented enough clinical symptoms so that they might have been localized for the purpose of an operation.

Knapp presents the following tables of operations undertaken for the removal of brain tumors of all sorts:

TABLE 5.—KNAPP'S TABLE OF PERCENTAGE OF FAILURES TO FIND GROWTH

	1889.	1891.	1899.	1905.	Total
Removed	18	28	265	160	471
Not removed	5	10	115	59	189
Percentage of failures	22	26	30	27	29

TABLE 6.—KNAPP'S TABLE OF PERCENTAGE OF FAILURE TO REMOVE

	1889.	1891.	1899.	1905.	Total
Removed	18	28	265	160	471
Not removed	6	20	224	107	357
Percentage of failures	25	41	46	40	43

Besides the cases of operations for cerebellar tumors recorded by Mills and Frazier, several additional cases have come under our notice as follows:

Stewart[3] reports forty cases which he has analyzed. Wharton Sinkler[4] also reports three cases. In two instances an operation had been performed. In these two cases one patient, who had a cyst, recovered. He was in perfect health seven months after the operation. Dercum[5] also discusses the subject.

Martens and Seiffert[6] report the case of a boy of 13 on whom an operation was performed for removal of a cerebellar tumor. The patient died after a few hours. An autopsy revealed a tumor, a large glioma, in the fourth ventricle.

Savage[7] furnishes notes of eleven cases, ten of which were relieved by trephining.

Funkenstein[8] reports five personal cases as follows: (a) patient died from operation; (b) patient died without operation; a solitary tubercle on the right auditory nerve; (c) neurofibroma on the auditory and facial nerves; (d) sarcoma of the cerebellum; (e) encephaloma of the left posterior fossa.

Becker[9] reports a case of tumor removed from the left pontocerebellar angle. The patient died in three hours after the operation. A beautiful plate shows the tumor *in situ* and another, the brain with the tumor removed.

W. B. Warrington[10] reports a case of an operation for the removal of a cerebellar tumor. The tumor was not found and the patient died. An autopsy discovered a sarcoma the size of a pigeon's egg in the right lobe pressing on the middle of the medulla.

Poppert[11] reports one case of successful removal and one of a partially successful removal. From one patient a woman, aged 28, a tumor was removed from the cerebellum, and four weeks later, at the time the report was made, she was doing well and greatly relieved, although the operation was done too late to improve the eyesight.

B. Sachs[12] reports three cases of cerebellar tumor in which operations were performed. Two of the patients succumbed. In the third case the patient was greatly relieved, although the tumor could not be found at the operation. He remarks: "Cerebellar surgery is in a sad plight." He believes that "the cure of cerebellar tumors is difficult to attain except in a small proportion of cases," but he believes that much relief may be afforded by trephining operations.

Ascoli[13] reports the case of a boy, aged 14, with cystic gliosarcoma in the right lobe of the cerebellum

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[2] Knapp: Boston Med. and Surg. Jour., Feb. 1, 1906.

[3] Stewart: Brain, 1904, p. 522.

[4] Sinkler, Wharton: Three Cases of Cerebellar Tumor, THE JOURNAL A. M. A., Sept. 26, 1908, li, 1057.

[5] Dercum: Jour. of Ment. and Nerv. Dis., 1906, p. 169.

[6] Martens and Seiffert: Berl. klin. Wchnschr., Aug. 10, 1908.

[7] Savage: Berl. klin. Wchnschr., Aug. 10, 1908.

[8] Funkenstein: Mitt. a. d. Grenzgebl., xliii, 1732.

[9] Becker: Deutsch, Arch. f. klin. Med., lxxxix, p. 6.

[10] Warrington, W. B.: Med. Chron., 1905, p. 144.

[11] Poppert: Deutsch. Med. Wchnsch., 1907, No. 15, p. 613.

[12] Sachs, B.: Med. Rec., Dec. 22, 1906.

[13] Ascoli: Corriere San., Milan, xviii, 172.

3 cm. from the surface and a little anteriorly. Two operations were done two days apart. The tumor was not removed entirely. The patient died fifteen days later.

He reports another case[14] of a woman, aged 23, who was operated on early in August, 1906, for cerebellar tumor. No tumor was found at the operation, but a few drops of pus of tuberculous character was discovered. By the middle of August the symptoms again became exaggerated. The patient died September 20. An autopsy revealed a tuberculous node in the left cerebellum and a tuberculous area on the surface on both sides of the medial lobe superior.

With this brief survey of the literature, we desire to give the clinical and pathologic records of a case observed by us, in which a tumor was removed from the cerebellum, the patient surviving the operation and exhibiting complete relief from headaches and vomiting and very great improvement of vision and considerable improvement in his gait.

The patient was admitted to the Allegheny General Hospital Jan. 4, 1909, having been referred to Dr. Diller by Dr. J. J. Emmens, of Somerset, Pa., who had previously made the diagnosis of cerebellar tumor.

CASE REPORT

Patient.—A single man, aged 20. His father is supported by charity. At the age of 2 the patient was given out by the Children's Aid Association to a farmer. He was healthy and strong and after he grew up did good work about the farm. At the age of 18 he secured his release and wandered about a good deal; and it is thought he was rather wild. Six months ago he returned to the farm. For some time before his return he had been suffering from headaches; and soon after he came back to the farm he fell quite a distance from a hay wagon and struck his head. But it appears he had headaches before this accident. Three or four months ago the headaches became very severe and very frequent. For three weeks past he has had very severe headaches located at the top of the head and pain running down the spine. His head now became drawn forward and to the left. He became intolerant of light; and his pupils were dilated. He had lately been subject to many dizzy spells and very marked right-sided sweating. There has been no fever. Hearing in the right ear is somewhat impaired. He is still able to read the newspaper.

Examination (Dr. Diller).—The posture at once commands attention. The patient's head is bent forward on the chest and drawn toward the left and rotated on its axis toward the right. Efforts to straighten it up cause great pain. He assumes this position to relieve himself of pain. He walks in a slow, laborious fashion with feet wide apart; his gait is very weak and uncertain. But he can walk the length of the ward with a little assistance. Four or five times he staggered so that he had to be supported, and at times he always staggered toward right. At a subsequent test he staggered to the left two or three times. He is generally weak and wretched, but I find no particular palsies of the trunk, arms or legs; and I note no cranial nerve palsies. In a mental way he exhibits nothing significant except that he is overly quiet and subdued and has a desire to be let alone. He is perhaps a little dull.

Eyes: There appears to be marked neuroretinitis in the right eye. I could not get a satisfactory look at the left eyeground.

Ears (Dr. Barndollar): Examination is negative. Hearing in both ears is normal.

Diagnosis.—The case appears to be one of cerebellar tumor. The evidence as to which side of the cerebellum is involved does not seem clear.

Course of Disease.—Jan. 18, 1909. Dr. Heckel found 5 D. of swelling in each nerve—double optic neuritis. The patient has had several attacks of vomiting at the hospital. His headaches appear to be very severe and are located chiefly at the back of the head. His head is rotated to the right side, but pushed forward to the left.

January 26: Ben's headaches continue to be severe and he complains that his eyesight is rapidly failing; that he can hardly see to read at all, even large print.

This unfortunate man presents a most pitiable sight. Sitting up in bed, with his head drawn forward, his manner and appearance indicate the truthfulness of his assertion that the head pains are unceasing and very severe most of the time. He has vomited frequently and obtained very, very little sleep since he entered the hospital because of the pain. The poor fellow gladly welcomed an operation, although its serious character was made plain to him.

Operation (January 27).—Dr. Gaub operated today, exposing both lobes of the cerebellum. The right lobe was found more protruding than the left and softer in consistency. About one-third or one-half of this lobe was cut away and the finger thrust forward to the anterior margin of the cerebellum; and a tumor was withdrawn somewhat almond-shaped and about as large as a hickory-nut. The patient stood the operation well, but the night following the operation his pulse became very rapid, going up to 190 by midnight; and for several hours it was more rapid than this and could not be properly counted. By the next day it was down to 136; but the pulse has continued to be more or less rapid even up to the present time (March 16).

DESCRIPTION OF OPERATION BY DR. OTTO C. GAUB

The patient was placed on his left side and a sandbag placed under his head. He was supported in this position by means of a reinforced plaster bandage passing around the upper part of the right arm and attached to an ordinary leg-holder. This posture gave a fair operative field and was comfortable to the patient, owing to his fixed head flexion. Ether anesthesia was used.

A cross-bow incision was made, the bone over both inferior occipital fossæ was removed by means of chisel and rongeur forceps, impinging on the foramen magnum, leaving a strip covering the occipital sinus. The bone of the right side was of the thickness of ordinary parchment paper, while that of the left side was three times as thick. The dura was opened by a crucial incision over both lobes of the cerebellum. Pronounced bulging of the right cerebellar lobe was noticed immediately on exposure, and its color appeared deeper than its fellow; its appearance was suggestive of softening. Palpation of both lobes demonstrated marked softening of the right lobe; and an attempt to introduce a spatula underneath produced a tear of its substance. It was readily seen that a satisfactory exploration was impossible without destroying the right lobe; so the index-finger was introduced and at a point, judged to be at the anterior surface of the right lobe, about its middle, a smooth rounded mass the size of a hickory-nut, of firmer consistency than the surrounding cerebellar tissue, was felt and then enucleated.

The removal of the tumor and softened cerebellar tissue was followed by a free hemorrhage controlled by packing with iodoform gauze. Up to this time the patient's condition was satisfactory; but following the removal of the tumor with its accompanying hemorrhage his condition became grave. The blood pressure fell to 90 mm. of mercury. A rapid closure of the wound was made with catgut for muscle and fascial layers and interrupted silkworm-gut sutures for the scalp. The incision over the right lobe was closed last, after the removal of the gauze tampon; no drainage.

Eight hours following the operation, the patient's condition was unsatisfactory. He lay on his left side, his head supported by one pillow. The dressings were soaked with blood, the skin relaxed and perspiring, pulse 140. He was propped up, supported by a back rest and grain 1/120 atropin sulphate administered, following which the pulse rate became increasingly rapid so that it was impossible to count, although each pulse move was distinct.

I believe this extreme rapidity to have been due to the atropin. The further progress of the patient had been detailed.

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[14] Ascoli: Policlinico, Rome, 1907, xiv, 141.

Immediately following the operation there was a very slight rise of temperature. By the 29th the temperature was normal and remained so except that on February 8 there was an elevation to 101.6.

FURTHER NOTE BY DR. DILLER

On the 29th it was noted that the pulse was intermittent and it continued so for several days, being very markedly so at times.

On February 7 the patient's respirations suddenly became rapid, going up to 40 per minute and his temperature to 101.6; and he seemed a little dull. I found a rough murmur over the heart which was apparently mitral-regurgitant. Dr. Emmens informed me that he examined the patient's heart carefully just before he came to the hospital and found no evidence of valvular heart trouble. When the patient left the hospital this murmur was much less marked.

Excepting the above complications the patient's condition following the operation has been extremely satisfactory. He experienced complete relief from headaches and vomiting; the optic neuritis subsided.

One of the most interesting and gratifying features of the case was the rapid subsidence of the optic neuritis, which began the day following the operation and continued for several days: and there was a corresponding improvement in vision, which went hand in hand with it. Optic neuritis had been noted by Dr. Emmens before the patient entered the hospital; and the examination at the hospital on January 5 revealed its presence in a high degree. The week preceding the operation the patient's vision was rapidly failing; so that the day before the operation he could hardly read the largest letters in the advertisements of the newspapers. Dr. Heckel observed the patient at frequent intervals following the operation and has kindly furnished us with the subjoined report, which speaks for itself.

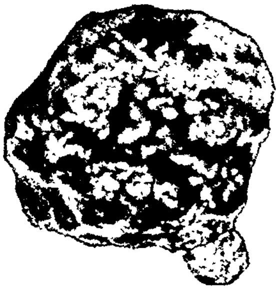

Fig. 1.—Gross specimen, from photograph.

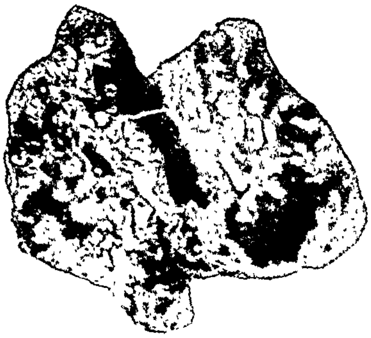

Fig. 2.—Section of gross specimen, from photograph.

EXAMINATION BY DR. E. B. HECKEL.

"First examination, Jan. 18, 1909: A typical papilledema (choked disc) with an elevation of the optic disc of five diopters, above the fundus, in each eye.

Jan. 26, 1909 (day before operation:)
O. D. about 6 diopters.
O. S. about 5 diopters.
First day after operation:
O. D. about 5 diopters.
O. S. about 4 diopters.
Second day after operation:
O. D. about 3 diopters.
O. S. about 3 diopters.
Fourth day after operation:
O. D. about 3 diopters.
O. S. about 2 diopters.
Fifth day after operation:
O. D. about the same.
Sixth day after operation:
Outline of optic disc just beginning to show in left eye.
Seventh day after operation:
Optic disc level with fundus.
Outline of optic disc in O. S. more pronounced.
Eighth day after operation:
About the same.
Fourteenth day after operation.
Outline of optic disc more distinct.
Sixteenth day:
Optic disc still blurred in O. D.
O. S. quite normal.
March 16, 1909, R. V. = 20/30; L. V. = 20/40.
Error of refraction, O. D. + 0.50 D. S. = + 0.50 D. C. ax. 75°.
O. S. + 0.50 D. S. = + 0.50 D. C. ax. 90°.
p. a. Jaeger N. 1 with O. D.
p. a. Jaeger No. 2 with O. S.

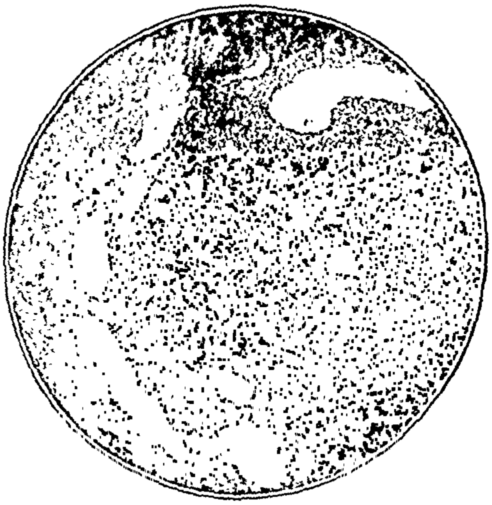

Fig. 3.—Low-power view of section of specimen; ocular 4, objective 1; from microphotograph.

"The optic disc of the O. S. is a trifle paler than the optic disc of the O. D.

"One of the most striking features of Ben's eyes was the greater elevation of the optic disc in the right eye; and the swelling was slower in disappearing than in the left eye. This point of the greater swelling in one nerve may be an aid in locating the tumor, i. e., right or left-sided."

REMARKS BY DR. DILLER

Ben passed an examination for train service on the Baltimore and Ohio Railroad within the last year.

The patient himself noted some improvement in his vision the second day after the operation and steady improvement from then afterward during the next three weeks, at the end of which time he could readily read all the ordinary print in the newspapers.

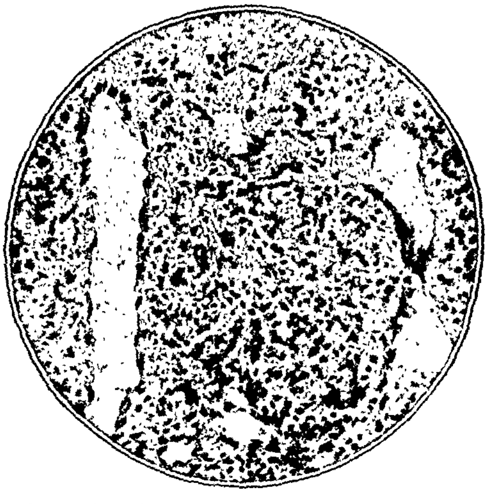

Fig 4.—View of section of specimen, ocular 4, objective 5; from microphotograph

The attitude of the head which had been so striking was no longer noted. The patient complained of no dizziness or nausea, or indeed of any distressing symptoms whatsoever.

It was very cheering to hear the patient's response to inquiries. "How is your headache?" "I have no headache." "How is your sight?" "Why, that's good now." At the time that the patient left the hospital, on March 22, he was comfortable and cheerful, but not yet able to walk more than a short distance; and he was still quite uncertain in his gait. But even his gait was rapidly improving. The heart murmur was still quite audible.

Ben left the hospital, March 22, about eight weeks after the operation. After he had been home six weeks he wrote a very cheerful letter, reporting on his condition, from which we abstract the following: "I got here all right. I have been visiting ever since. I am feeling pretty good at present. I am walking around every day to get exercise."

A more recent report from Dr. Emmens also assures us that the patient continues to do well.[15]

The tumor was given to Dr. F. Proescher, pathologist of the Allegheny General Hospital, for examination, and he reported as follows:

PATHOLOGIC REPORT BY DR. F. PROESCHER

The specimen is a very soft round tumor, 4 cm. in diameter and 2 cm. thick. It was partly surrounded by a red fibrous capsule. When cut in two its periphery was reddish-yellow, opaque, very soft and rich in blood vessels. The center of the tumor had the consistency of gelatin, was grayish-white and transparent and contained many hemorrhagic areas.

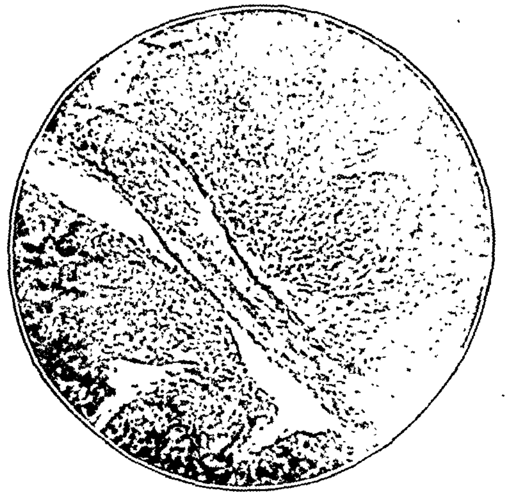

Fig. 5.—Tumor cells infiltrating walls and lumen of vein.

Microscopic sections showed a polymorphous sarcoma with myxomatous areas. It contained many large and small blood vessels, some of which the sarcoma perforated; and there were multiple hemorrhages.

Diagnosis.—Myxosarcoma teleangiectatum.

The features of this case which appeared to us as noteworthy are:

1. The excellent recovery of the patient after the operation and his great improvement.

2. The position of the head, bent forward to the left on the chest and rotated to the right. This is against the common statement that in cerebellar tumors the head is drawn backward.

3. The very rapid subsidence of the optic neuritis following the operation.

4. The fact that the optic neuritis was greater on the right side—the side of the tumor—than the other side.

5. The great practical value of exposing the cerebellum over both sides; this, not only because it is frequently difficult to decide on which side a tumor is located, but because such an opening allows for far better manipulation and exploration of the cerebellum. Without this double opening the tumor in this case could probably not have been enucleated.

6. The fact that considerable manipulation and even destruction of the cerebellar lobe is compatible with life.

7. The position of the patient on the operating table and the surgical technic are of the greatest importance.

8. The cardiac complication—the apparent development of an endocarditis which seems to have disappeared now.

9. Right-sided sweating.

Westinghouse Building.

ABSTRACT OF DISCUSSION

Dr. B. Sachs, New York: *The matter of greatest importance* is to determine the exact location of the cerebellar neoplasm; and a considerable experience has led me to the conclusion that accurate localization can only be made by the observation of a few especial and very delicate symptoms. The attitude of the head is one of the most important of all signs. I have found it of importance in a considerable number of cases; and my impression has been that for the most part the head inclines toward the side on which the tumor is situated, although there *may* be cases reported in which the opposite has been true. Moreover, the occurrence of vertigo on looking to one side or the other sometimes leads to a differential diagnosis. And in that case, too, so far as my *experience goes, the vertigo becomes extreme if the person* looks also toward the side on which we believe the tumor to be situated and where it is subsequently found. Another point of importance as an aid to diagnosis in cerebellar cases is the occurrence of *intense nystagmus. While nystagmus is* an associated symptom in neoplasms in various locations, there is very intense nystagmus associated with this class of neoplasms that I think may be considered as evidence of cerebellar tumors in contradistinction to tumor in other parts of the brain.

Then the minute differences between the reflexes (and all these symptoms are apt to be slight), particularly slight ataxia in one member as compared with the member on the opposite side of the body, are important.

Dr. Diller has been extremely fortunate in his diagnoses; for in a series of twenty cases of cerebellar neoplasm it has been my misfortune not to be able to localize the neoplasm in any spinal part of the cerebellum and yet the cerebellar operations will not be such an infrequent occurrence, because nowadays we are impelled to exploratory operations in order to save vision. For that reason I do not hesitate in any case in which I suspect a cerebellar neoplasm to have the first exploratory operation done for the purpose of saving the vision if possible; and incidentally have that exploratory operation done in such a way that it would be performed on the side to which the symptoms appear to point. In that way we may sometimes have all the good fortune that Dr. Diller has had in this case.

Dr. Max Mailhouse, New Haven: A year ago I was fortunate enough to see two cases of cerebellar tumor within three months; and I had two particularly important aids to localization in these two cases: One was ataxia shown by the finger to nose test on the same side as the tumor, which ataxia is now considered to be a homolateral symptom. The other was awkwardness in the pronation and supination of the forearm, present in both cases, that awkwardness being on the same side as the tumor. Those two phenomena aided me in localization, and the tumor was found in each case where these ataxic conditions indicated.

One of the cases unfortunately was very late in coming to hand. It had been diagnosed by the general practitioner as neurasthenia and the patient had been sent into the country and rusticated for three or four months before reaching my hands. In both of these cases the early and marked development of choked disc and the persistent and early development of vomiting helped to point toward the cerebellum as the seat of the lesion.

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[15] The patient was shown at the meeting of the Section on Nervous and Mental Diseases of the American Medical Association at the Atlantic City meeting, June, 1909. At this time he was bright mentally, entirely free from headaches and vomiting, and able to read readily an ordinary newspaper; and he walked with ease an ordinary pace, exhibiting but slight trace of the marked ataxia which he had formerly had. The right knee-jerk was normal; the left, somewh [illegible] pupils reacted to light; the fundus was not [illegible] t's head was held in nearly normal positio [illegible] were somewhat, not greatly, restricted. Ir [illegible] ite comfortable. The wound had entirely healed.

Dr. George B. Moleen, Denver: Nothing has been said with reference to the utilization of the x-ray in these cases. I feel somewhat hesitant in bringing that up, although in three cases in Denver prior to doing either an exploratory or ameliorating operation, I had the side in which I suspected the tumor to be present x-rayed, keeping that side closest to the plate.

In two instances I obtained very good shadows. Both of the patients were operated on and the diagnosis and location verified. One of these cases, like the one mentioned by the previous speaker, was diagnosed as a case of neurasthenia, but it had all the evidences of a left-sided cerebellar tumor with secondary atrophy incident on the choked disc. In that case the patient was placed on a plate and photographed with the left side down. The skiagram showed a very clear outline.

Those tumors which are, however, more deeply seated should not be expected to give a clear and definite outline, as compared with those which are located near the cortex. Naturally, the line of such tumors will be more or less diffuse. But with those located near the cortex if that side of the head is brought next to the plate, the skiagram will furnish a very important aid in determining the location of the tumor.

Dr. B. R. Tucker, Richmond, Va.: I have a case which I think is undoubtedly one of cerebellar tumor, in which I have advised operation, but I am very uncertain, and in fact, completely in doubt as to which side the tumor is on. The patient is a child about 4 years old who has nystagmus, nausea, vomiting, and optic neuritis which had gone on to atrophy. The position she takes is unique. She has spells of drowsiness, and then she will kneel on the floor, put her head on one side, resting it on the floor, sometimes on the right and sometimes on the left, and drop off to sleep instantaneously. I have not been able to find another instance of a similar position assumed by the head and also by the body.

Dr. T. M. T. McKennan, Pittsburg: There are three suggestive points in diagnosis which have not been brought out, but which I noticed in the case which is under discussion. One point is that while the patient had severe general headache, he stated that the most intense pain was on the right side and toward the back part of the head. The second point is that on palpation of the head, there was distinct tenderness on the right side; the third point is that there was unilateral sweating on the right side; all suggesting that the tumor probably was in the right cerebellum.

Dr. T. Diller, Pittsburg: I would be the last to minimize any aids that we would get in the way of localization, both as to whether a tumor is in the cerebrum or cerebellum and, if in either of these, in which portion. But the patient was not examined, I confess, with quite the same precision that he would have been ordinarily; for, as I said, he was so miserable and so very wretched that we could not examine him quite so thoroughly in all respects as would have been desirable. I am glad Dr. McKennan mentioned these two or three points that I had forgotten in my brief summary of the case. A very interesting point was this unilateral sweating.

We should get all the aid we can and locate the tumor as exactly as possible; but after that from a practical point of view I think we ought always in cases of cerebellar tumor to open the skull over both lobes of the cerebellum. This allows for a greater facility for exploration and also for a possible error as to the side the tumor is on; and since this is necessary for surgical purposes, it makes it less necessary to localize a tumor exactly in the cerebellum.

I may say that since this case I have had another that was not so fortunate. The tumor was correctly localized in the cerebellum on the right side, on the basis of the marked masseter involvement, as well as the sensory involvement of the fifth nerve, and although the operation was done with the same care and skill as in the other case, the patient succumbed very shortly.

LICHEN PLANUS SCLEROSUS

WITH REPORT OF A CASE *

JAY FRANK SCHAMBERG, M.D.
AND
ROSE HIRSCHLER, M.D.
PHILADELPHIA

Patient.—Miss L., American birth, aged 19; height about 5 feet; weight about 90 pounds; hair brown; eyes blue; skin fair with slight freckling; intelligent. Parents Irish, living and well. Several brothers and sisters living and well; one brother died in infancy of bowel trouble; no consumption in family; no skin disease; no history of syphilis.

History.—The patient had none of the infectious diseases that she could recall. About a year before examination she had lumbago; since then had had slight attacks of rheumatism. She was not nervous in any way, i. e., her temperament was not neurotic. The patient slept well and ate well; she was actively engaged in work and was inconvenienced in no way by the skin disease present. She had never had any other skin affection. The disease under consideration made its appearance about three years before the first examination. It is possible that it might have begun somewhat earlier, as the lesions when first observed by the patient were already large. The patient insisted that the spots were white from the very beginning and that no reddish coloration was at that time present. The palmar surface of the left wrist was first attacked and later the corresponding area of the right wrist. Scant, scattered lesions had since appeared on the dorsal surfaces of the hands and fingers. A patch was also present on the posterior median aspect of the neck.

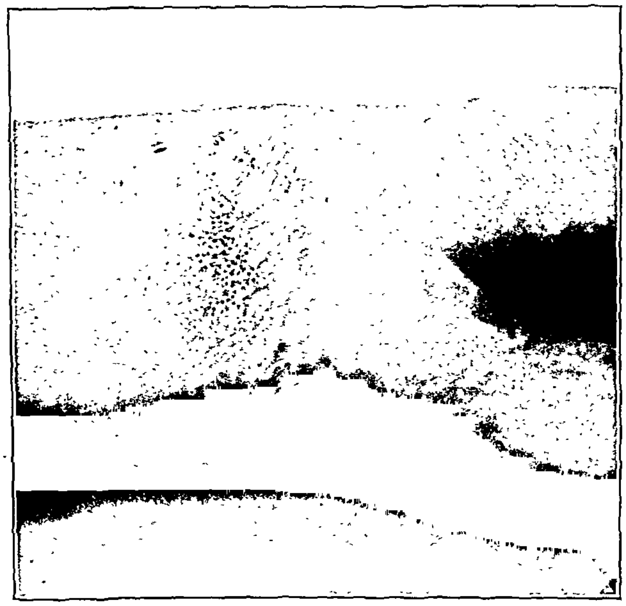

Fig. 1.—Lichen sclerosus, showing whitish papules and keratotic plugs.

First General Examination.—The eruptive elements consisted of flat, shining, angular papules of a whitish hue. The discrete lesions were of a brilliant snow-white or bluish-white color; the confluent patches exhibited more of an opaque dead-white tint. The papules varied in size from a pinhead to a milletseed or larger. The smaller papules had a smooth surface and were but slightly, if at all, elevated above the level of the skin. On palpation, they were not more resistant than the surrounding integument. The larger patches were slightly raised above the skin, and somewhat resistant to the touch. The papules were irregularly facetted, their angularity being produced by the exaggerated furrows which constituted their boundaries.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

On examination with a low-power magnifying glass, the patches were seen to be covered with fine adherent scales. One of the most striking features of the disease was the presence of numerous brownish-black keratotic plugs which were studded over the larger patches. On the left wrist about one hundred of these plugs could be counted. They were most numerous in a confluent plaque in the center of the wrist. The plugs varied in size from a pin-point to a pin-head, were firmly imbedded, and scarcely elevated above the surface. They could not be dislodged with a needle, although the patient said that washing with soap and hot water temporarily removed some of the plugs. Here and there were a few small pits or depressions from which the corneous plugs had evidently been lost. On the dorsal surfaces of the hands and fingers, the lesions were few and discrete. On the palmar surface of the wrists, particularly the left, there were numerous closely aggregated papules, some arranged in transverse lines corresponding with the furrows of the wrist; others were merged into smaller or larger confluent, irregular patches. The greater part of the wrist was covered with the disease. On the back of the neck was an irregular, quarter-dollar-sized patch made up of partially merged whitish papules. The most recent papules were, as would be expected, the smallest ones. These were devoid of the horny plugs. In one lesion a central, dimple-like, depression was noted. None of the lesions exhibited any depression below the level of the skin, or any change suggestive of atrophy. The skin surrounding the papules and plaques was normal in color; there was neither telangiectasis nor pigmentation. No itching was present nor have there been any subjective disturbances. The disease appeared to be slowly but positively progressive, new lesions developing in the neighborhood of the old patches. The mucous membrane of the mouth was free of eruption.

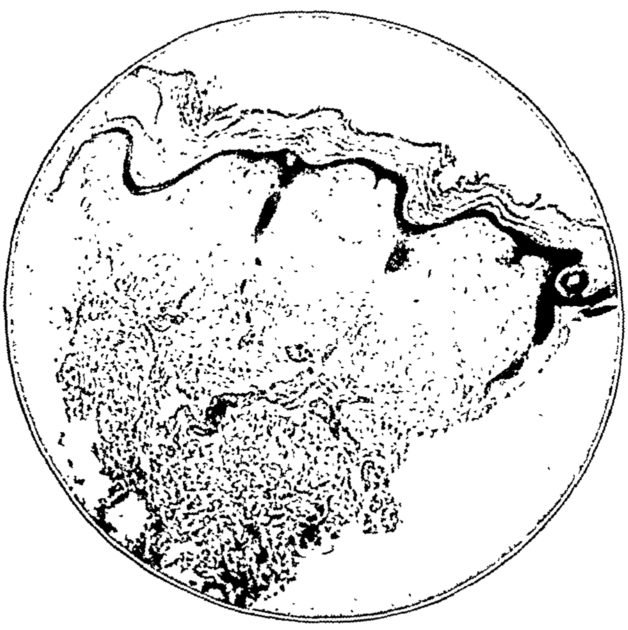

Fig. 2.—Microscopic section of an old papule showing hyperkeratosis, flattening of papillæ, great thickening and condensation of corium and deep cell infiltration.

Second General Examination.—The patient, after a period of absence was again seen in May, 1909, over a year after the time she first came under observation. Nearly all of the lesions had undergone involution. The large patches on the wrists had practically disappeared, leaving a rather thinned atrophic skin. One or two small angular whitish papules were still visible. At the nape of the neck, involution had gone on to the same extent as on the wrists.

Microscopic Examination.—In 1908, a biopsy was made with a skin punch from a confluent plaque on the wrist, and a small papule was excised from the base of the little finger. Each incision is now the seat of a pinkish, slightly keloidal scar. The patient complains that darting pains are occasionally felt at the site of the biopsies. The specimen of skin from the confluent patch on the wrist presented the following histological appearances: Larger and older lesion: The horny layer was enormously hypertrophied, being five to eight times its normal thickness. It exhibited longitudinal cleavage of the various strata. Its thickness varied somewhat, being greatest over the follicular depressions at the mouths of the sweat ducts. In these depressions, the horny layer showed a persistence of nuclei and a somewhat whorl-like and irregular arrangement of the epithelial fibers, with reticular spaces in the whorls. These horny masses which took the hematoxylin stain deeply represented the corneous plugs referred to in the clinical description. The plugs were, therefore, due to a follicular hyperkeratosis and parakeratosis.

The granular layer did not show any marked departure from normal; it was made up of two to four layers of cells containing numerous granules of keratohyalin.

The most profound changes in the epidermis were seen in the rete mucosum. This stratum consisted of but four layers of cells, which were fusiform and closely packed together. No polygonal cells were observed whatsoever. The rete was not only greatly thinned, but pronounced degenerative changes were present. The basal layer was in many places completely disorganized. Instead of a marginated contour separating the rete from the corium, the nether edge of the basal cells was irregular and frayed, with fibrils extending therefrom into subepithelial spaces in the corium. In many places, the nuclei of the lowermost rete cells were crescentically shrunken and occupied but a portion of the normal nuclear area.

The papillæ of the corium were practically effaced, inasmuch as there were no downgrowths of the rete mucosum save at the follicular openings, of which there were but five in the section. Just beneath the rete mucosum, the corium in places appeared to be detached with the formation of clear spaces. In most areas instead of a detachment, the basal rete cells seemed to have become disorganized and to have disappeared, leaving an irregular fibrillary network. Here and there rete cells were seen lying loose in the spaces in the upper corium in a rarified reticular structure. The papillary layer was the seat of a dense, fibrous structure made up of closely packed, wavy, collagenous fibers. The papillary blood vessels were practically absent. One or two capillaries are seen coursing for a short distance, but their lumina appeared to be obstructed by endothelial cells. Connective tissue cells were seen scattered among the collagenous fibers in about normal numbers.

No hair follicles were present in the section, but four or five mouths of sweat ducts were seen.

Inflammatory cell infiltration was absent in the papillary layer but was seen about the middle of the corium. At this level, the cells lay in interspaces between coarse collagenous fibers. A pronounced cell infiltration was seen about a sweat duct; and a little lower in the corium a pronounced infiltration was noted in the immediate neighborhood of some of the coil glands and around the adjacent large blood vessels.

Indeed, most of the cell infiltration seemed to be in anatomic relationship with the sudorific glands and ducts.

Smaller and Younger Lesion: The second specimen was a millet-seed-sized, smooth, glistening, discrete, whitish papule removed from the base of the little finger. It presented the following appearances:

The horny layer was hypertrophic, exhibiting two or three times the normal thickness; over the central portion of the papules, the horny layer was thicker than over the periphery. The granular layer was normal. The rete was of normal thickness: the cells in many areas showed a most pronounced contraction of the nuclei and vacuolation of the cell; in some cells vacuolation with disappearance of the nuclei was observed. Subepithelial spaces, such as were seen in the older lesion, were not present in this one, but there was a degeneration of many of the basal rete cells.

There was a pronounced cell infiltration in the subpapillary region. The blood vessels were markedly dilated. The infiltration was more superficially located than in the first specimen but it did not, as in ordinary lichen planus, involve the most superficial portion of the papillary layer. Nevertheless, it would appear that the cellular infiltrate in young lesions is in the subpapillary region and that this is later replaced by an increase and condensation of the collagenous fibers leading to a sclerosis or fibrosis of the corium.

Sections stained with acid orcein disclosed the presence of normal elastic fibers in the sclerosed areas. In the subepithelial spaces and in the subjacent reticulated, and rarified portions of the corium, however, the elastic fibers were absent.

In an inaugural address, in 1887, Hallopeau[1] first directed attention to a variety of lichen planus which he termed "lichen planus atrophicus." The patient was a neurotic woman, 45 years old. The eruption was present on the forearm, back and lumbar regions.

In 1889, Hallopeau[2] described a second case and modified the designation to read "lichen planus sclerosus." The patient was an unmarried woman, aged 58. The eruption was present on the wrists. The onset was sudden with intense itching; later the itching moderated. A progressive spread occurred during four years.

A third case was published by Hallopeau in 1896.[3] The patient, a woman of 55 years of age, had had the affection for eight years. The eruption began on the wrists; later the left forearm and right shoulder-blade region became involved. The buccal mucous membrane presented numerous opaline striæ characteristic of lichen planus.

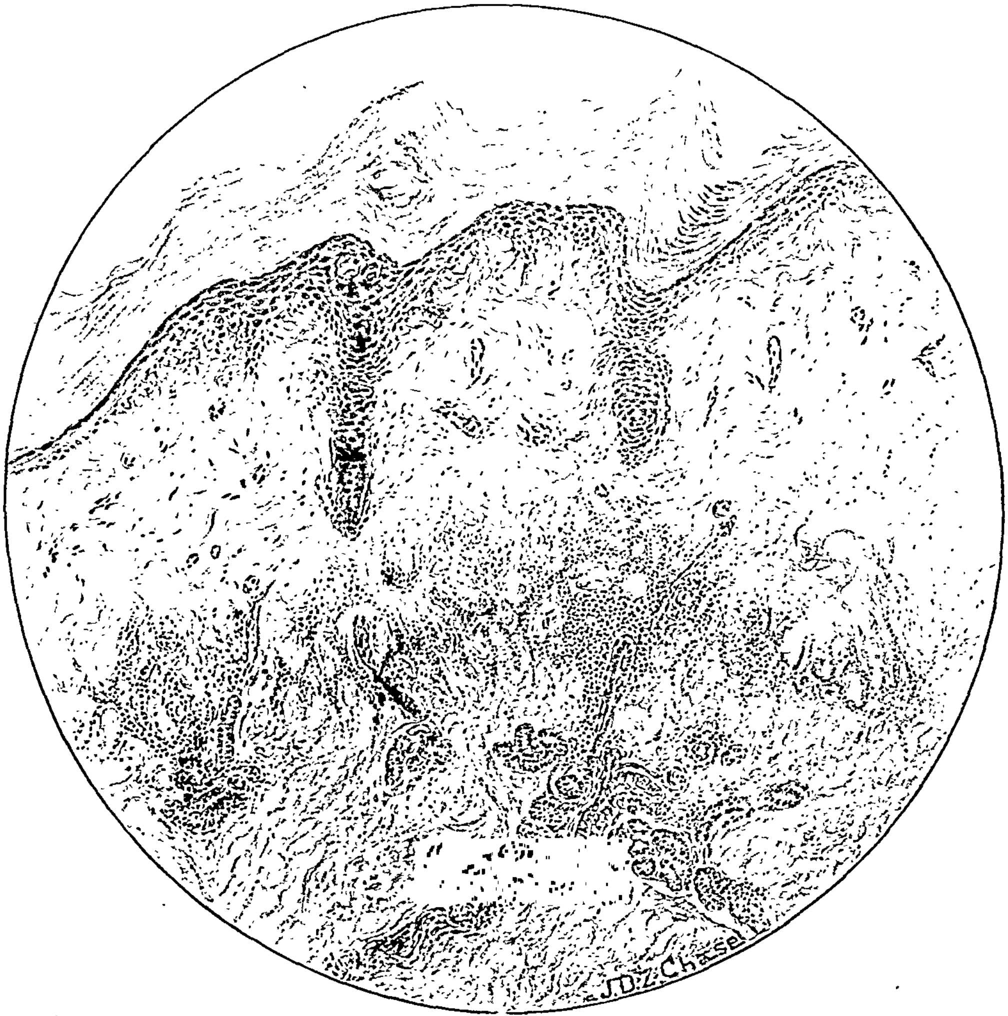

Fig. 3.—Thickening of horny layer, follicular parakeratosis, degeneration of rete cells, rarefaction of subjacent corium, thickening and condensation of deeper layers of the corium and deep cell infiltration.

Hallopeau's fourth case was published in 1898.[4] This patient, a woman of 60, had had the disease for two years. The eruption was located on and between the breasts, lower part of the neck, over the clavicles, and in the lumbar region. There was marked itching in some of the areas.

The essential features of the eruption in these cases and in those subsequently to be referred to are remarkably uniform. The lesions consist of flat angular shining papules, as a rule, neither depressed beneath the surface nor raised perceptibly above it. In the center, particularly of confluent papules, are dark horny or keratotic plugs, which when removed expose pits or depressions with corneous walls. The color is whitish—sometimes a shining nacreous white, at other times ivory-tinted. The papules are prone to coalesce into plaques; their borders are nevertheless distinguishable, the patches exhibiting the papules *en mosaique*, as Fournier aptly expresses it. Surrounding some of the papules or plaques is a reddish areola or in other cases pigmentation. Itching is present in most cases.

One of Hallopeau's patients asserted that the eruption began as blackish, slightly elevated points; there then developed a bright, reddish areola lasting several months; later the lesions became decolorized.

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1. Union méd., 1887.
2. Ann. de dermat et de syph., 1889, p. 447.
3. Ann. de dermat et de syph., 1896, p. 57.
4. Ann. de dermat. et de syph., 1898, p. 358.

On examination with a low-power magnifying glass, the patches were seen to be covered with fine adherent scales. One of the most striking features of the disease was the presence of numerous brownish-black keratotic plugs which were studded over the larger patches. On the left wrist about one hundred of these plugs could be counted. They were most numerous in a confluent plaque in the center of the wrist. The plugs varied in size from a pin-point to a pin-head, were firmly imbedded, and scarcely elevated above the surface. They could not be dislodged with a needle, although the patient said that washing with soap and hot water temporarily removed some of the plugs. Here and there were a few small pits or depressions from which the corneous plugs had evidently been lost. On the dorsal surfaces of the hands and fingers, the lesions were few and discrete. On the palmar surface of the wrists, particularly the left, there were numerous closely aggregated papules, some arranged in transverse lines corresponding with the furrows of the wrist; others were merged into smaller or larger confluent, irregular patches. The greater part of the wrist was covered with the disease. On the back of the neck was an irregular, quarter-dollar-sized patch made up of partially merged whitish papules. The most recent papules were, as would be expected, the smallest ones. These were devoid of the horny plugs. In one lesion a central, dimple-like, depression was noted. None of the lesions exhibited any depression below the level of the skin, or any change suggestive of atrophy. The skin surrounding the papules and plaques was normal in color; there was neither telangiectasis nor pigmentation. No itching was present nor have there been any subjective disturbances. The disease appeared to be slowly but positively progressive, new lesions developing in the neighborhood of the old patches. The mucous membrane of the mouth was free of eruption.

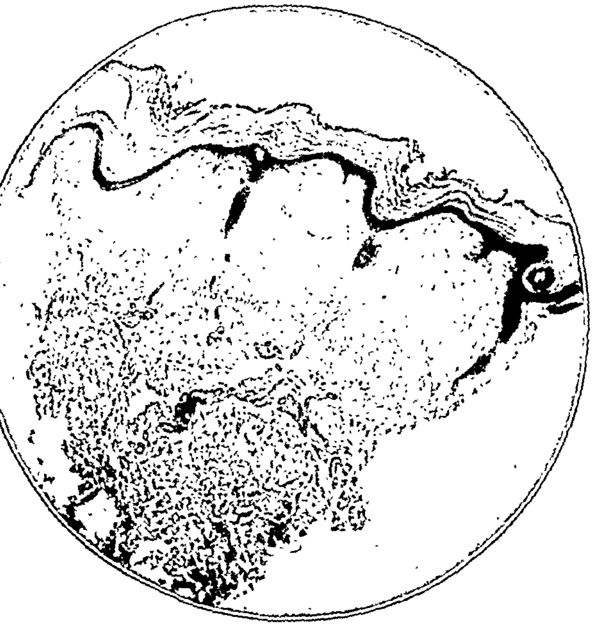

Fig. 2.—Microscopic section of an old papule showing hyperkeratosis, flattening of papillæ, great thickening and condensation of corium and deep cell infiltration.

Second General Examination.—The patient, after a period of absence was again seen in May, 1909, over a year after the time she first came under observation. Nearly all of the lesions had undergone involution. The large patches on the wrists had practically disappeared, leaving a rather thinned atrophic skin. One or two small angular whitish papules were still visible. At the nape of the neck, involution had gone on to the same extent as on the wrists.

Microscopic Examination.—In 1908, a biopsy was made with a skin punch from a confluent plaque on the wrist, and a small papule was excised from the base of the little finger. Each incision is now the seat of a pinkish, slightly keloidal scar. The patient complains that darting pains are occasionally felt at the site of the biopsies. The specimen of skin from the confluent patch on the wrist presented the following histological appearances: Larger and older lesion: The horny layer was enormously hypertrophied, being five to eight times its normal thickness. It exhibited longitudinal cleavage of the various strata. Its thickness varied somewhat, being greatest over the follicular depressions at the mouths of the sweat ducts. In these depressions, the horny layer showed a persistence of nuclei and a somewhat whorl-like and irregular arrangement of the epithelial fibers, with reticular spaces in the whorls. These horny masses which took the hematoxylin stain deeply represented the corneous plugs referred to in the clinical description. The plugs were, therefore, due to a follicular hyperkeratosis and parakeratosis.

The granular layer did not show any marked departure from normal; it was made up of two to four layers of cells containing numerous granules of keratohyalin.

The most profound changes in the epidermis were seen in the rete mucosum. This stratum consisted of but four layers of cells, which were fusiform and closely packed together. No polygonal cells were observed whatsoever. The rete was not only greatly thinned, but pronounced degenerative changes were present. The basal layer was in many places completely disorganized. Instead of a marginated contour separating the rete from the corium, the nether edge of the basal cells was irregular and frayed, with fibrils extending therefrom into subepithelial spaces in the corium. In many places, the nuclei of the lowermost rete cells were crescentically shrunken and occupied but a portion of the normal nuclear area.

The papillæ of the corium were practically effaced, inasmuch as there were no downgrowths of the rete mucosum save at the follicular openings, of which there were but five in the section. Just beneath the rete mucosum, the corium in places appeared to be detached with the formation of clear spaces. In most areas instead of a detachment, the basal rete cells seemed to have become disorganized and to have disappeared, leaving an irregular fibrillary network. Here and there rete cells were seen lying loose in the spaces in the upper corium in a rarified reticular structure. The papillary layer was the seat of a dense, fibrous structure made up of closely packed, wavy, collagenous fibers. The papillary blood vessels were practically absent. One or two capillaries are seen coursing for a short distance, but their lumina appeared to be obstructed by endothelial cells. Connective tissue cells were seen scattered among the collagenous fibers in about normal numbers.

No hair follicles were present in the section, but four or five mouths of sweat ducts were seen.

Inflammatory cell infiltration was absent in the papillary layer but was seen about the middle of the corium. At this level, the cells lay in interspaces between coarse collagenous fibers. A pronounced cell infiltration was seen about a sweat duct; and a little lower in the corium a pronounced infiltration was noted in the immediate neighborhood of some of the coil glands and around the adjacent large blood vessels.

Indeed, most of the cell infiltration seemed to be in anatomic relationship with the sudorific glands and ducts.

Smaller and Younger Lesion: The second specimen was a millet-seed-sized, smooth, glistening, discrete, whitish papule removed from the base of the little finger. It presented the following appearances:

The horny layer was hypertrophic, exhibiting two or three times the normal thickness; over the central portion of the papules, the horny layer was thicker than over the periphery. The granular layer was normal. The rete was of normal thickness: the cells in many areas showed a most pronounced contraction of the nuclei and vacuolation of the cell; in some cells vacuolation with disappearance of the nuclei was observed. Subepithelial spaces, such as were seen in the older lesion, were not present in this one, but there was a degeneration of many of the basal rete cells.

There was a pronounced cell infiltration in the subpapillary region. The blood vessels were markedly dilated. The infiltration was more superficially located than in the first specimen but it did not, as in ordinary lichen planus, involve the most superficial portion of the papillary layer. Nevertheless, it would appear that the cellular infiltrate in young lesions is in the subpapillary region and that this is later replaced by an increase and condensation of the collagenous fibers leading to a sclerosis or fibrosis of the corium.

Sections stained with acid orcein disclosed the presence of normal elastic fibers in the sclerosed areas. In the subepithelial spaces and in the subjacent reticulated, and rarified portions of the corium, however, the elastic fibers were absent.

In an inaugural address, in 1887, Hallopeau[1] first directed attention to a variety of lichen planus which he termed "lichen planus atrophicus." The patient was a neurotic woman, 45 years old. The eruption was present on the forearm, back and lumbar regions.

In 1889, Hallopeau[2] described a second case and modified the designation to read "lichen planus sclerosus." The patient was an unmarried woman, aged 58. The eruption was present on the wrists. The onset was sudden with intense itching; later the itching moderated. A progressive spread occurred during four years.

A third case was published by Hallopeau in 1896.[3] The patient, a woman of 55 years of age, had had the affection for eight years. The eruption began on the wrists; later the left forearm and right shoulder-blade region became involved. The buccal mucous membrane presented numerous opaline striæ characteristic of lichen planus.

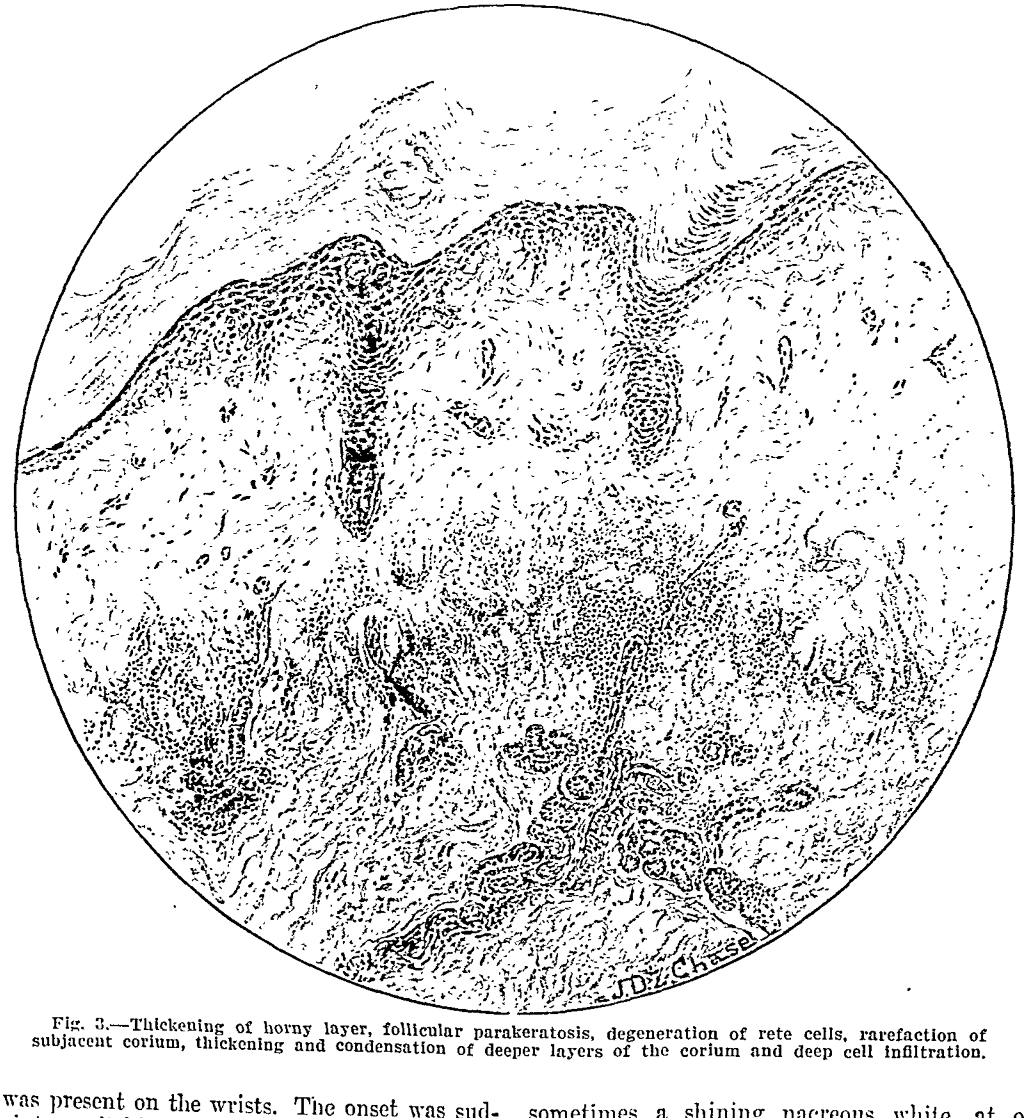

Fig. 3.—Thickening of horny layer, follicular parakeratosis, degeneration of rete cells, rarefaction of subjacent corium, thickening and condensation of deeper layers of the corium and deep cell infiltration.

Hallopeau's fourth case was published in 1898.[4] This patient, a woman of 60, had had the disease for two years. The eruption was located on and between the breasts, lower part of the neck, over the clavicles, and in the lumbar region. There was marked itching in some of the areas.

The essential features of the eruption in these cases and in those subsequently to be referred to are remarkably uniform. The lesions consist of flat angular shining papules, as a rule, neither depressed beneath the surface nor raised perceptibly above it. In the center, particularly of confluent papules, are dark horny or keratotic plugs, which when removed expose pits or depressions with corneous walls. The color is whitish—sometimes a shining nacreous white, at other times ivory-tinted. The papules are prone to coalesce into plaques; their borders are nevertheless distinguishable, the patches exhibiting the papules *en mosaique,* as Fournier aptly expresses it. Surrounding some of the papules or plaques is a reddish areola or in other cases pigmentation. Itching is present in most cases.

One of Hallopeau's patients asserted that the eruption began as blackish, slightly elevated points; there then developed a bright, reddish areola lasting several months; later the lesions became decolorized.

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[1] Union méd., 1887.

[2] Ann. de dermat et de syph., 1889, p. 447.

[3] Ann. de dermat et de syph., 1896, p. 57.

[4] Ann de dermat. et de syph., 1898, p. 358.

Some doubt attaches to the accuracy of this patient's observations, as most of the patients assert that the lesion is white from the beginning. Indeed, Hallopeau himself says the papules are decolorized "d'emblée."

Morrant Baker exhibited a case before the London Dermatological Society in 1892, of which Crocker made the following notes:

> A man, age about 40, eruption present about eighteen months. It was composed of white, oval or round, convex solid papules in symmetrical groups or irregular shape on the tips of the elbows and knees, the wrists, backs of the hands, and dorsa of feet, the upper and lower lips, etc. Examination with a lens showed minute vessels between and ramifying on the peripheral part of the papules, very like in this respect what may be frequently seen in lichen planus, to which the disease appeared to have some affinity. Moderate but not excessive itching.

It must be admitted that the above case is not in all respects identical with Hallopeau's cases.

Darier[5] published a typical case in 1892. A woman, aged 54, had the disease for two years. It began with itching in the axillæ. The eruption was limited to the axilla and back of the neck. White spots, brilliant and nacreous, were bordered by a reddish areola. Thirty *yellowish and brownish points were present on one* patch.

Stowers and Vinrace[6] exhibited a case similar to those of Hallopeau before the London Dermatological Congress in 1896. The disease was limited to the inner side of the right knee and caused intense itching.

Orlack[7] described in 1899 a case of lichen atrophicus associated with vitiligo. A young man, aged 23, had large scar-like plaques in the trochanteric region; duration, ten years. Each spot was surrounded by a sepia-colored zone. There was intense itching and paresthetic symptoms.

Under the title of "Lichen Albus, a Hitherto Undescribed Disease," von Zumbusch,[8] who was apparently unfamiliar with the literature on lichen sclerosus, published in 1906 a typical example of this disease. An unmarried woman, aged 51, began four years previously with an itching dermatosis, which appeared first on the shoulders and upper arms, and later on the forearms, wrists, neck and back. The lesions consisted primarily of vivid red polygonal papules, later acquiring a pale lilac tint. Confluent patches of a porcelain white coloration with a slight rose violet areola were later observed. In the middle of the plaques were seen pit-like depressions, in some of which there were visible grayish-brown horny comedo-like plugs. The histologic changes were characteristic of lichen sclerosus.

Montgomery and Ormsby,[9] after describing cases of morphea guttata, detail the description of a typical case of lichen planus sclerosus et atrophicus. The patient was an extremely nervous woman of 51. The lesions were present on the shoulder blades, on the chest and arms. There were no subjective symptoms.

A number of other cases of atrophic lichen planus have been described, but it is doubtful whether they should be regarded as the same variety as that just considered. Most of these cases assuredly are of a different character.

Kaposi[10] describes a case of a woman, aged 45, who had in the cervico-clavicular region, on the back and on the right thigh extensive flat and slightly depressed reticulated cicatrices, with a whitish luster and a reddish-brown border. Kaposi states that they looked like the cicatrices of lupus erythematosus. Later typical lichen planus lesions appeared.

Pawlow exhibited a case of lichen scleroticus seu atrophicus before the St. Petersburg Dermatological Society. Pawlow[11] regarded the condition as influenced by a general keloidal tendency and employed the term "lichen planus keloidiformis."

Schwimmer,[12] in 1895, demonstrated a case of lichen scleroticus present in groups on the greater part of the body. There was intense itching. In the beginning, the condition was regarded as a universal squamous eczema.

Gaucher, Barbeé and Balli observed in 1895 a patient, 24 years old, with a lichen scleroticus universalis. There were papular plaques with intense pigmentation. The authors called the condition "lichen atrophicus pigmentosus."

Zarubin[13] published a case of a man, 32 years old, with an atrophic lichen planus. On the left thigh in particular, but also elsewhere, were numerous lesions consisting of annular and segmental brownish-red patches with atrophic scar-like centers. He also described a case of "lichen atrophicus annulatus universalis" in a man, 47 years old. This patient had numerous brownish-red annular patches with whitish atrophic or cicatricial centers. An accompanying colored plate of the first case demonstrates conclusively that the affection is not the "lichen planus sclerosus" of Hallopeau.

From a survey of the literature we are led, as others have been, to the conclusion that there are two varieties of atrophic lichen planus. The one represents a terminal degenerative change, while the other would appear to be a primary aberrant variety of lichen planus, or an affection closely allied to it. The term "lichen planus sclerosus" is much to be preferred to "lichen planus atrophicus," *as the atrophy of the rete mucosum is probably* secondary to the sclerosis of the corium. Furthermore, the term "atrophic lichen planus" should be reserved for the secondary variety. In lichen planus sclerosus, the whitish color of the papules is probably due to the compression and obliteration of the papillary blood vessels by the condensed and hypertrophic collagen. Inasmuch as the whiteness of the papules is a striking feature, the designation "lichen albus sclerosus" would not be inappropriate.

In the 11 undoubted cases that have been reported, 8 patients have been females, 2 males and the sex of one patient we have not been able to ascertain. The preponderance of this variety of lichen planus in women is far greater than that of ordinary lichen planus. Kaposi writes that two-thirds of his lichen ruber cases (doubtless including lichen acuminatus as well as lichen planus) were in men. Crocker states that of 114 hospital cases of lichen planus, there were 7 in women to 4 in men; in 108 private cases, there were 8½ in women to 7 in men.

The histologic changes observed in lichen planus sclerosus by Darier, Montgomery and Ormsby, von Zumbusch, and by ourselves are remarkably constant. There is a cell infiltration in the middle of the lower part of the corium, with later a sclerosis and condensation of the collagen fibers. The papillæ are effaced and the papillary blood vessels obliterated. The rete mucosum exhibits marked atrophic and degenerative changes, while the horny layer is hypertrophied.

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[5] Darier: Ann. de dermat. et de syph., 1892, p. 833.

[6] Stowers and Vinrace: Tr. Third Internat. Dermat. Cong., London, 1896, p. 906.

[7] Orlack: Arch. f. Dermat., 1899, p. 393.

[8] Von Zumbusch: Arch. f. Dermat. u. Syph., 1906, lxxxii, 339.

[9] Montgomery and Ormsby: Jour. Cutan. Dis., 1907, p. 1.

[10] Kaposi: Diseases of the Skin, Am. Ed., 1895, p. 332.

[11] Med. Obozr., 1894, No. 8.

[12] Schwimmer: Lichen ruber planus atrophicus, Arch. f. Dermat. u. Syph., 1895, p. 451.

[13] Zarubin: Arch. f. Dermat. u. Syph., 1901, p. 323.

The constancy in the clinical and histologic features of lichen planus sclerosus serves to distinguish it trenchantly from other varieties of lichen planus. There are some cases of morphea with keratotic plugs imbedded in the patches, which may closely resemble lichen sclerosus, but a careful study of the gross and microscopic appearances will usually enable one to differentiate the two affections.

1922 Spruce Street.—1911 Diamond Street.

ABSTRACT OF DISCUSSION

DR. M. B. HARTZELL, Philadelphia: I had the opportunity of seeing the case which Dr. Schamberg has reported here, and of which he has shown drawings. I am not quite convinced, and I think the reader of the paper is not, that these cases properly belong to the lichen group. If I recall the case aright, there were small whitish areas, some of them containing minute keratotic plugs. Some of the older patches had a peculiar ivory-white appearance, such as we see in old patches of morphea, and I can not help but think that these cases properly belong to morphea rather than to the lichen group.

DR. J. F. SCHAMBERG, Philadelphia: Some cases of morphea certainly bear a distinct resemblance to lichen planus sclerosus; only recently I made a histologic study of a case of morphea in which keratotic plugs similar to those in lichen sclerosus were present. In its clinical features, however, this disease does not run the same course as morphea. Discrete patches have appeared and disappeared in the course of a year. Histologically, in the case, the elastic fibers were destroyed in the superficial papillary layer, but were preserved in the mid-corium.

VINCENT'S SPIRILLUM AND BACILLUS FUSIFORMIS IN PSEUDOMEMBRANOUS ANGINAS*

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MINNEAPOLIS

Since Plaut, in 1894, described a spirillum and an associated spindle-shaped bacillus in cases of membranous tonsillitis, and Vincent, in 1896, described similar organisms in cases of hospital gangrene, a large number of observers have reported similar lesions in which the spirillum and the *Bacillus fusiformis* have been constantly associated.

These lesions have been described as acute, or subacute, ulcerative or membranous inflammations in which were found the characteristic spirilla and bacilli. Morphologically, the fusiform bacilli have been described as spindle-shaped rods with tapering ends, slightly bulging in the center, usually straight, and from 6 to 12 microns in length. The spirilla, usually associated with the bacilli, are delicate spiral-shaped organisms, staining somewhat faintly, and varying considerably in length and in the number of twists or curves. Both organisms take the ordinary stains but are Gram-negative. They are always found associated with other micro-organisms.

Clinically, these acute lesions appear as a grayish pseudomembranous inflammation attended by necrosis; the necrotic area usually sloughs leaving a penetrating ulcer, the floor of which is covered with pus and which easily bleeds. The duration is from one to three weeks.

In the following cases, the lesion was a chronic pseudomembranous inflammation of the fauces, in which repeated microscopic examinations showed the presence of the characteristic bacilli and spirilla.

CASE 1.—Miss S., aged 24. Family and personal history negative. The patient was referred to me by Dr. C. G. Weston for the removal of chronically hypertrophied faucial tonsils.

Examination.—This showed small deeply embedded chronically diseased faucial tonsils. She had been subject to former attacks of acute tonsillitis. The general health at time of examination was good. A short time previously the cervical lymphatic glands on the left side had been enlarged, but were not so at time of examination. On the surface of both faucial tonsils were small membranous patches, not confined to the crypts. These patches were grayish-white in color, somewhat adherent to the tonsil, and when removed, by brushing, left an underlying reddened surface which did not bleed. The patient stated that she had noticed these patches for the last two months. Temperature was normal and no constitutional symptoms were present.

Operation.—Under cocain anesthesia both tonsils were enucleated and the operative wounds healed quickly.

Subsequent History.—One week after operation patient complained of an annoying cough, accompanied by considerable irritation in the throat. Examination showed a number of gray white patches on the lingual tonsil, and extending into the upper portion of the pyriform sinuses. The tonsillectomy wound showed patches of white membrane. Examination of thorax was negative; temperature was normal. Microscopic examination, by Dr. H. L. Ulrich, of deeper portions of the membrane showed Vincent's spirilla and fusiform bacilli.

Further Treatment.—Application of a 10 per cent. solution of silver nitrate relieved the cough for twenty-four hours. Three days later the patches of membrane still persisting, the galvanocautery was applied superficially and a small area was cauterized. This was followed by a violent reaction lasting for ten days, and was not repeated. Following the use of the cautery, a membranous deposit appeared on the cauterized area. Subsequent treatment consisted of applications of peroxid of hydrogen followed by silver nitrate, 2 to 10 per cent. solution and 5 per cent. solution of zinc sulphocarbolate. Three weeks later the pseudomembrane had disappeared and the throat presented a normal appearance.

CASE 2.—Male, aged 45, was in city for a few days only and was referred to me by Dr. J. H. Stewart for examination of throat. The man's general health was good and his history was negative. Patient complained of some irritation of the throat, but had no pain.

Examination.—This showed small submerged faucial tonsils and membranous patches in the orifices of the faucial tonsillar crypts, on the lingual tonsil and a small isolated patch on the outer side of the epiglottis. Temperature was normal and there were no constitutional symptoms. Microscopic examination of the deposits from both the faucial and lingual tonsils showed the spirilla and fusiform bacilli, numerous cocci and some leptothrix.

Remarks.—This patient was seen only at time of examination, hence subsequent condition was not noted personally, though a letter received some time later stated that the deposits on the tonsils had disappeared a few weeks after I examined him, and that there had been no recurrence. Treatment had consisted of sprays of mild antiseptic solutions.

CASE 3.—Mrs. J. W., aged 44, was referred to me by Dr. J. P. Schneider, on account of a chronic involvement of the throat. Family history and previous personal history was negative.

History of Illness.—The patient took care of a relative, ill with typhoid, four months before date of examination, and her throat became acutely sore at that time, numerous membranous patches appearing on the faucial tonsils. During the past four months there has been a feeling of irritation and discomfort in the throat, but no pain. At times she has beer subject to slight hoarseness, though her voice has not been markedly affected. She states that about one month after her throat became affected she felt some irritation further down in the throat and thought the larynx was becoming involved. At that time she had fever, with pain in the muscles of neck, and also some pain in the muscles of chest and back which she described as "shifting pains." She is extremely nervous, does not sleep well, wakes suddenly and has a feeling of impending danger. When nervous and restless at night she perspires freely.

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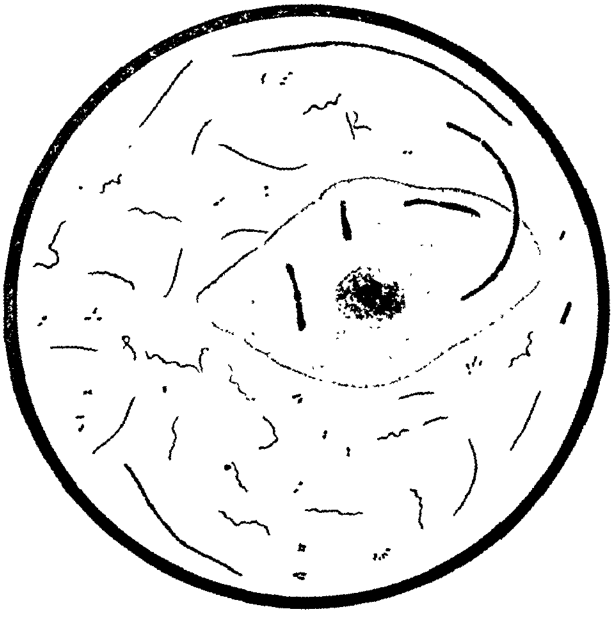
* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Examination.—Faucial tonsils were moderately hypertrophied; the surface of the tonsils showed numerous patches of grayish deposits, some located in the crypts of the glands, but not confined to them, which were adherent to underlying membrane, but could be removed by brushing with a cotton-wound applicator without leaving a bleeding surface. The deposits were abundant between the anterior pillars and the base of the tongue and a number of membranous patches were present on the lingual tonsil and in the lingual sinus. There were several isolated patches in the pyriform sinuses and involving the upper lateral edge of the epiglottis. Temperature at time of examination was 99.5 F., and during subsequent days it varied from 98 to 99.5 F. The patient was also examined by Dr. J. W. Bell, who reported a nervous dyspepsia and neuralgia of the muscles of the chest and back. The patient was neurotic and her general condition was considerably below par; physical examination otherwise was negative.



Drawing from smear in Case 3, × 500; 3 mm. immersion objective and No. 6 ocular used Drawing made with camera lucida.

Examination of smears: Several days later smears were taken from the affected areas and submitted to Dr. S. Marx White for microscopic examination. Dr. White reported *Vincent's spirilla and fusiform bacilli*, and a few days later he personally removed some of the pseudomembranous deposits for examination and reported as follows:

1. Considerable numbers of squamous epithelial cells with occasional smaller round cells. No polymorphonuclear leucocytes were seen.

2. A moderate amount of granular detritus without any special structure and small amounts of substance staining like mucus.

3. Bacteria in large numbers. Among these we find most prominent a slender spirillum 8 to 12 and sometimes 14 micra in length, with pointed ends. Each spirillum shows from 3 to 5 and sometimes 6 turns and many of them are twisted in such a manner as to form a loose loop. Beside these are found a number of fusiform bacilli 8 to 12 micra in length. These are pointed at both ends and stain somewhat irregularly, appearing at times to be divided near the center so as to form two bacilli with their blunt ends together. The special staining properties of these organisms will be described in a later paragraph.

Aside from these are a few short bacilli, many cocci, occasionally in pairs and tetrads, and larger deep-staining organisms of the leptothrix type. The fusiform bacilli and spirilla above described resemble those seen in a number of cases of the so-called angina and stomatitis of Vincent. The staining properties of these organisms are as follows:

(a) Gram's stain: The fusiform bacilli when decolorized with alcohol rapidly, retain here and there, a little of the gentian violet, but under ordinary decolorization lose almost completely this stain. The spirilla are completely decolorized.

(b) Gentian violet and aqueous fuchsin stains color the bacilli deeply and give an appearance of vacuoles or fainter staining areas in the protoplasm. The spirilla are brought *out more prominently by these than by any other stains.*

(c) Methylene blue: The bacilli are faintly colored, but show some irregularity. It is difficult to see the spirilla with this stain, as they are very faintly colored.

The predominating organism in these smears made from the whitish patches on the lingual tonsil are the fusiform bacillus and the spirillum corresponding in all particulars with that of Vincent. Cultivations were impossible because of the larger numbers of other organisms. These organisms may bear an etiologic relation to the condition, but it is impossible to make a dogmatic statement to that effect, since similar organisms are occasionally found in the normal buccal secretions and since also many other organisms, such as the leptothrix, are found. Repeated observations, finding the same organisms in a number of similar cases, would be necessary.

The sections of the tonsil and a small mass of material from the lingual tonsil fail to show anything aside from partially filled crypts in which these organisms can not be distinguished.

In Case 1, the general health of the patient was good and she responded readily to treatment. In Case 3, at the onset of the throat involvement the patient had been subjected to considerable physical and mental strain; she was extremely nervous and apprehensive in regard to what she considered a serious throat affection; she was of a neurotic temperament and subject to gastric disorders, and for these reasons I did not attach much importance to her systemic condition as being a direct result of the throat lesions. This patient responded less readily to treatment than the patient in Case 1. Tonics were prescribed and, while there was no history or other evidence of specific disease, potassium iodid, in increasing doses, was administered for four weeks without result. During the first four weeks, local applications were made of peroxid of hydrogen, silver nitrate, 2 to 10 per cent., and zinc sulphocarbolate. This treatment was followed by but slight improvement: the silver nitrate solution was then increased to 30 per cent. and improvement followed resulting in the disappearance of the membranous deposits.

Clinically, these cases resembled in some respects a mycosis and some leptothrix were found in the microscopic examinations of the smears. The pseudomembrane, as described above, could be removed by brushing with an applicator and left a reddened but not a bleeding surface. This membrane showed a marked tendency to recur after removal and appeared on the cauterized area in the tonsillar fossa after tonsillectomy.

Whether the organisms, as described by Vincent, and which were found in all the microscopic examinations made in these cases, were the causative factor I am unable to say. Unsuccessful attempts were made to grow the organisms, aërobically, on culture media and no inoculations were made. The growth of Vincent's spirilla and the fusiform bacilli on culture media has demonstrated the great difference in vitality that these organisms possess.

As previously stated, I am not able to say that the Vincent's organisms were the causative factor; their continued presence, however, would seem to justify the assumption that they may have been a factor in the production of the pseudomembranous angina as occurring in these cases, and I have considered the subject of enough interest to warrant my presenting to the section the clinical histories and findings.

602 Nicollet Avenue.

ABSTRACT OF DISCUSSION

Dr. F. C. Todd, Minneapolis: The literature on the subject of Vincent's angina is large, many cases having been reported despite the relative rarity of the disease. Clinically, two types are generally recognized (according to Bruce), first, the mild diphtheritic type which is unilateral, superficial, limited in extent with no swelling or injection of the fauces, and very slight glandular enlargement on the affected side with slight elevation of temperature, lasting from one to two days, following which there is no immediate change in the throat condition, the slough finally dropping off, revealing an ulcer which quickly heals. Second, the ulcero-membranous type. In this condition the disease spreads rapidly over a greater and deeper area. There is a slow suppuration of the slough in from ten to fourteen days; one-half of the tonsil or uvula may be destroyed, followed by granulations which bleed readily and heal rapidly. Glandular involvement occurs but not suppuration.

The cases reported by Dr. Murray, it would seem to me, sufficiently correspond to those reported by other observers, to be considered as true cases of Vincent's angina, though very likely the mixed infection alters the disease.

I have had one case which I diagnosed as mycosis (mycelium being present) because there were present not alone the microorganism producing this disease, but because it was typical, clinically, and there were present horny, hard elevations extending from the crypts, indeed a keratosis; Vincent's spirillum and Vincent's fusiform bacillus were present. There was at no time a membrane present and the disease was only cured by complete removal of the tonsil and repeated surgical removal of the areas in which recurrence too place, some months being required to eradicate the infection.

Another case I have seen is that of a physician, a pathologist, who is examining the throats of patients in an insane asylum where an epidemic of Vincent's angina was present, contracted the infection himself and although this occurred several years ago he can at all times find the infection present in his tonsils even when no abnormal manifestations are present. At times he suffers severe acute exacerbations. It may be a chronic infection similar to Dr. Murray's cases.

Dr. Samuel Iglauer, Cincinnati: I have seen at least six or seven cases of Vincent's angina. Whenever I had occasion to suspect this disease I found the smears about the same as here given. In giving the characteristics Dr. Murray did not state that the bacillus as well as the spirillum is motile, and that a very good way to study it is in the hanging drop. They both stain with Loeffler's methylene blue, or with carbol-fuchsin. We may safely state that these organisms are always present in these ulcers, and it would seem that they are the cause of the disease. The bacillus has always had a characteristic canoe shape and the transverse markings represent, if you will, the seats in the canoe. Another point of importance is the absence of constitutional symptoms. The patient has little or no pain and is usually surprised when told that he has an ulcerative process in the throat.

Dr. E. H. Porter, Tiffin, Ohio: Dr. Iglauer has said the patients have little pain or discomfort. I would like to report a case. A butcher came under my care with a diseased condition of the mucous surface of the mouth which had existed for nine months and suffering excrutiating pain. I took him to St. Vincent's Hospital in Toledo and we went carefully over the case. We found the typical bacilli and enormous numbers of the tetrads. He was taken care of at home for about a week and did not progress favorably and I took him back to the hospital and the whole inner surface of the cheek was removed surgically. He was in the hospital about six days and was sent home by the operating surgeon. Since that time I have been trying everything the various text-books have given for the treatment of the disease, but just before coming to this meeting I found the ulcerative process still going back into the tissues. Dr. Mayer in a letter suggested the use of iodin solution but it has not stopped the process.

Dr. J. A. Stucky, Lexington, Ky.: I have had seven cases, five of which have already been reported. The treatment in the first two was most unsatisfactory, but in the last five I have had gratifying results from the application of Loeffler's solution. In three of the five only two applications were necessary; in the others four or five applications were made.

Dr. W. R. Murray, Minneapolis: I have not reported these cases as typical cases of Vincent's infection. Moreover, I am not prepared to state that they are cases of Vincent's angina. They are not acute cases and are very different from the cases formerly described as Vincent's angina, a great many cases of which have been described in the literature. These cases were chronic, with no constitutional symptoms and no local symptoms except irritation in the throat. I have seen a number of cases of typical acute involvement of the fauces and in the treatment I have found that application of the tincture of iodin usually gives very good results, although I am aware that some men have claimed that it is a disease which is very little influenced by any treatment whatever.

Clinical Notes

A NEW APPARATUS FOR THE TREATMENT OF FRACTURES OF THE HUMERUS

GEORGE OSGOOD, M.D.
COHASSET, MASS.

AND

DUNLAP P. PENHALLOW, M.D.
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BOSTON

In the treatment of fractures of the shaft of the humerus, much difficulty is often encountered in getting apposition of the fragments and then holding them in place by the methods commonly in use.

The forms of apparatus most commonly used consist essentially of an axillary pad, coaptation splints, an internal angular splint, a shoulder cap, either of felt or of plaster of Paris, and a cravat sling to support the forearm at the wrist. It may easily be seen, that the amount of traction obtained with such an apparatus depends directly on the downward pull which the weight of the forearm exerts on the lower fragment.

In certain cases in which reduction is difficult, an internal angular splint is applied and active traction is obtained by means either of a weight which is hung on the internal angular splint close to the elbow, or by means of a piece of rubber tubing which is fastened to the angle of the splint and then passed downward to the groin, and around the thigh. Such an apparatus as the latter is uncomfortable and necessitates constant watching to see that no pressure sores result from insufficient padding under the tube.

It may readily be seen that such a humerus apparatus is complicated and difficult to adjust properly, and that it requires constant readjustment in order to hold the fragments of bone in apposition. It also does not allow of muscular relaxation, but simply tires the muscles by constant and direct pull, and by pressure of the coaptation splints.

It would seem, then, that a simpler apparatus which would allow of muscular relaxation and which also could be applied so as to cause traction without weights, and thus bring the ends of the fragments into apposition, would be much more advantageous than the complicated contrivances commonly used. Such an apparatus would have all the advantages of the usual combination without the disadvantages attendant on frequent removal for readjustment.

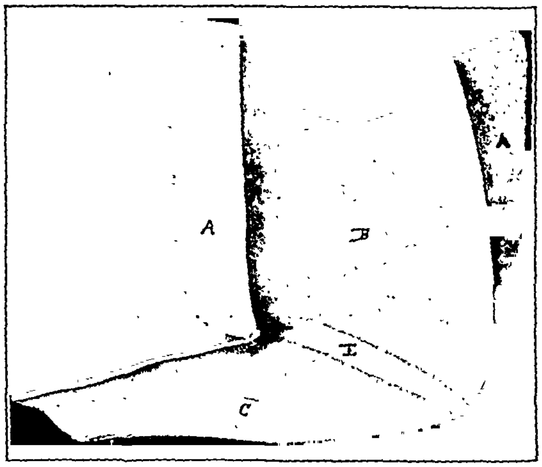

Fig. 1.—Side view of left arm splint; foreshortening due to position of splint; A, chest piece; B, upper arm support; C, forearm splint; E, reinforced angle.

Taking all these factors into consideration, the following apparatus was devised for the treatment of fractures of the shaft of the humerus. It may be used for fractures elsewhere, such as those of the surgical neck, and for supracondylar fractures, provided that care is used in adjusting the splint and the pads. The splint consists of a chest piece (Figs 1 and 2, A), to which is attached a gutter (B) at an angle of about 45 degrees and large enough to accommodate the upper arm and of a length approximately that of the humerus measured from the axilla to the flexure of the elbow. From the lower end of this gutter is what is practically the forearm part of an internal angular splint (C) set at such an angle that the forearm will be carried slightly in front of the body, while the hand will be held in a position of semipronation and somewhat lower than the elbow. This position of the hand and arm is very comfortable and exerts little or no pressure on the large vessels in the arm and at the elbow, so that the circulation is not retarded, and there is very little chance of edema of the hand in spite of its relatively dependent position. In order to gain extra strength, the splint is strongly reinforced in the angles (E, E).

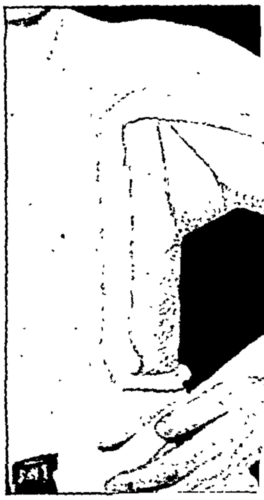

Fig. 3.—Splint padded and applied before the adhesive swathe has been put on.

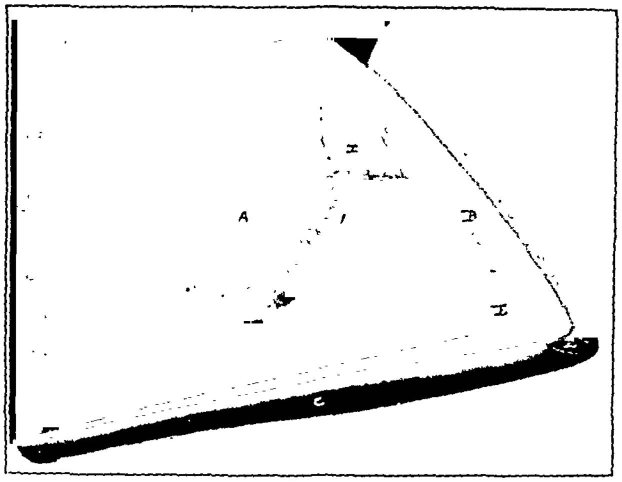

Fig. 2.—Front view of left splint; Various parts designated as in Figure 1.

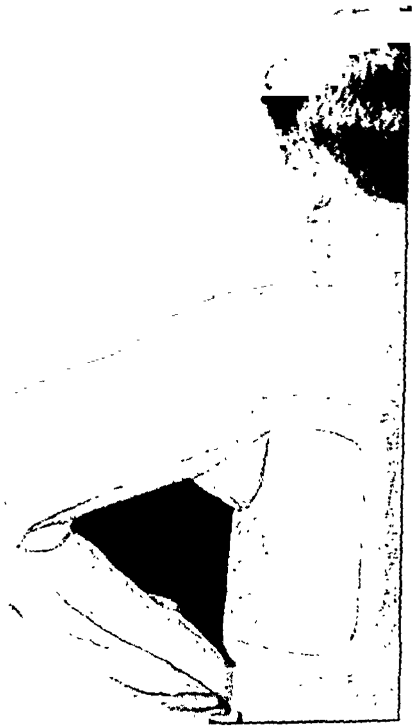

Fig. 4.—Same as Figure 2; rear view.

This apparatus, when applied, combines in itself an axillary pad, internal angular splint, sling and internal coaptations. The adhesive plaster straps which cross over the deltoids take the place of the shoulder cap. External coaptation splints may be used to advantage in certain cases, simply to aid in the prevention of outward bowing, and also to prevent "gunstock deformity."

The greatest advantage of this apparatus, however, is the fact that it permits of practically any degree of traction required for the apposition of the fragments. During the application of the splint, the traction is active; but after the apparatus is applied the traction becomes virtually passive by reason of the downward pull of the arm along the upper gutter, by gravity pulling the upper arm forward and downward, thereby counteracting the usual displacement forward of the lower fragment.

Another advantage derived from this apparatus is to be found in the treatment of compound fractures of the humerus, which are nearly always compound on the outer side, since the dressing may be changed without disturbing the position of the fragments. Another desirable feature is the fact that patients are able to put their clothes on over the splint. Furthermore, it is much more comfortable to wear than any other form of apparatus known to us. Patients who have been in the usual apparatus have commented on the comfort and relief afforded by this splint.

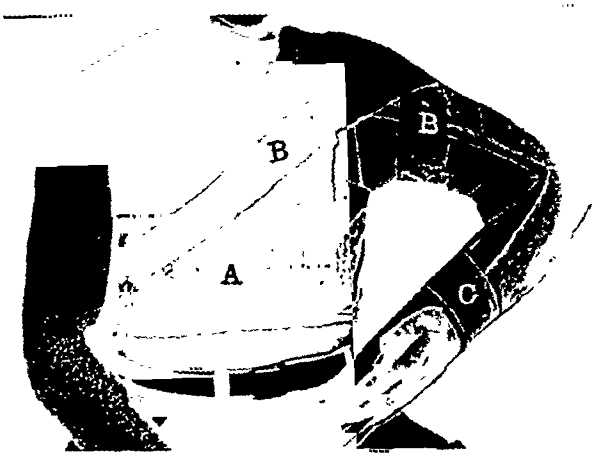

Fig. 5.—Rear view of same subject shown in Figure 3; shows relative position of splint to chest wall and arm; A, adhesive swathe to hold splint in position against chest wall; B, B, straps of adhesive plaster crossing over deltoid muscle to hold splint well up into axilla and also to immobilize the deltoid; C, adhesive plaster strap applied over sheet wadding to hold forearm to splint. Note the unobstructed view which may be had of the whole of the upper arm.

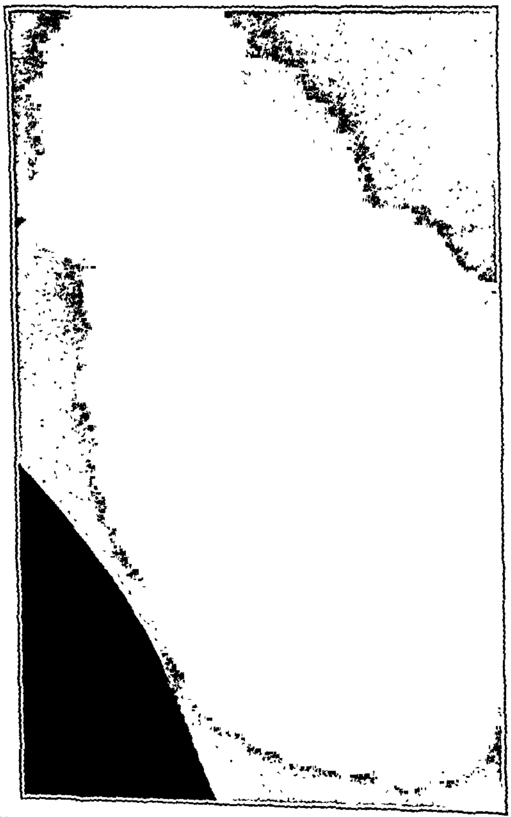

Fig. 7.—Case 1; compound fracture of the humerus. An operation was performed and an attempt made to hold the fragments in position by means of kangaroo tendon. The arm was then put in acute flexion, but considerable displacement resulted, as shown in the diagram, and the arm could not be fixed so as to hold the fragments in position. It was therefore decided to try the splint.

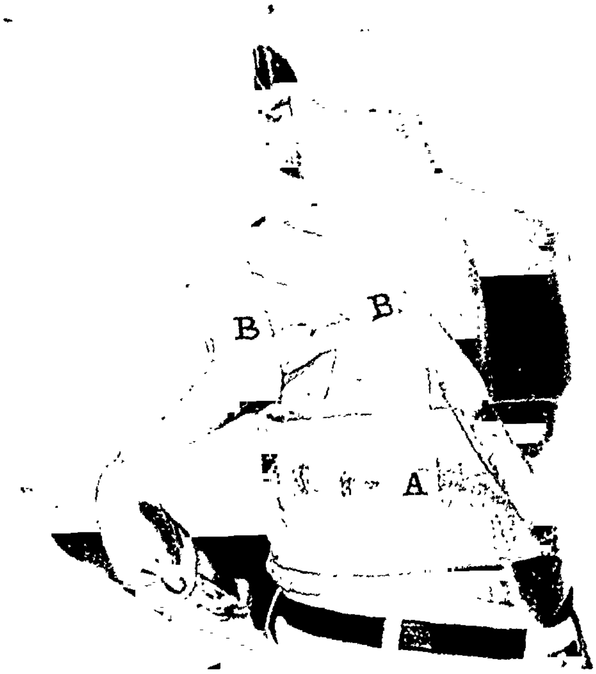

Fig. 6.—Rear view of the same subject shown in Figure 5. Designation by letters same as in preceding figure.

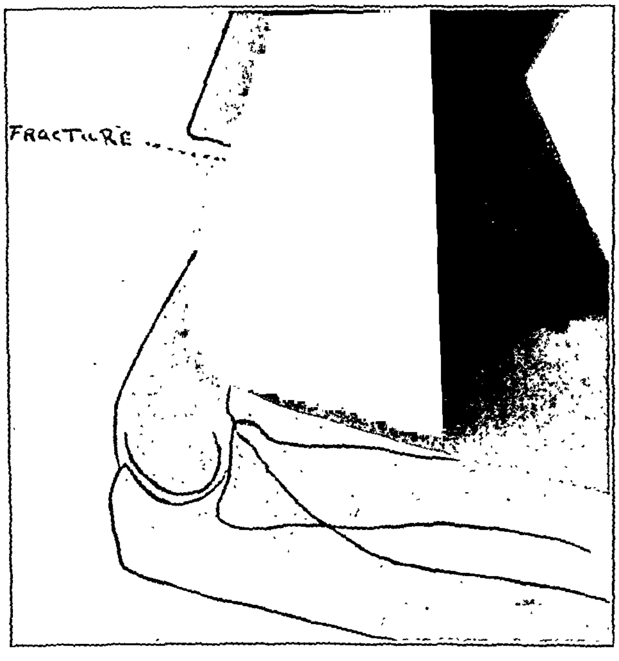

Fig. 8.—Case 1; arm on splint showing still some displacement of fragments; upper fragment displaced slightly outward and lower fragment displaced inward.

The desired traction is obtained by first extending the forearm and carefully placing the proper amount of padding over the lower angle of the splint. The forearm is then flexed, and if the padding has been properly adjusted such flexion will cause the lower fragment of the humerus to be drawn downward, while the upper fragment remains fixed. The degree of traction obtained can easily be varied by the amount of padding placed over the lower angle of the splint, and, as this is rounded off, a great amount of traction may be obtained without fear of injuring the nerves and blood vessels lying in the flexure of the elbow. Practically any amount of overriding may be corrected, as the position of the upper arm is such that the greatest amount of muscular relaxation is obtained, and the traction from the weight of the arm is continuous, though moderate in degree.

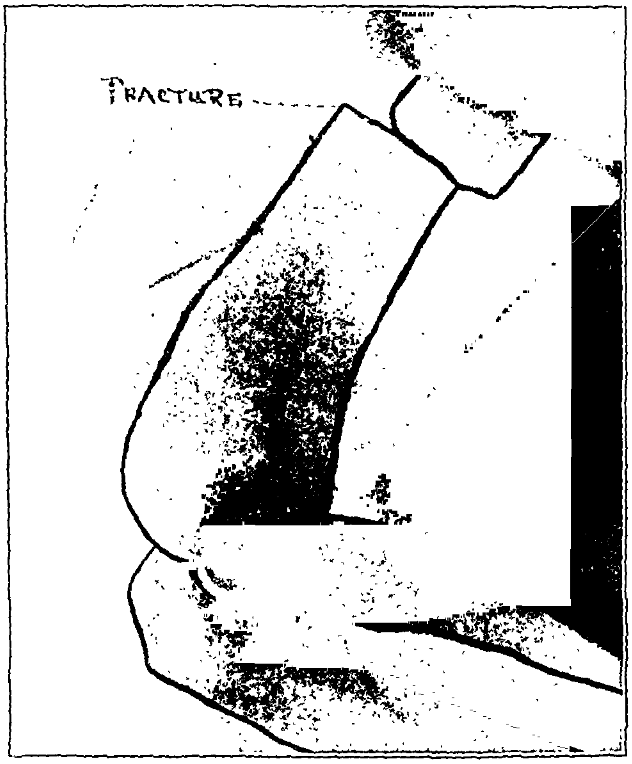

Fig. 9.—Case 1: marked improvement in position due to adjustment of padding; very slight displacement outward of the lower fragment.

The forearm splint acts as a sling, holds the forearm in a semipronated position and carries part of the padding by means of which the traction is obtained.

The splints are made in various sizes for both right and left arms. An adjustable splint may also be made by constructing the upper gutter in two parts, one of which rests in the other. The chest piece and one part of the gutter are attached, while the other gutter is attached to the forearm splint. A series of holes is made in both gutters in such manner that they correspond, and the splint is completed by adjusting the upper gutter to the length of the humerus and then rivetting the two parts together.

The method of applying the splints is very simple and is as follows:

After the proper amount of padding has been placed over the chest piece and upper gutter, the splint is pressed well up into the axilla (Figs. 3 and 4) and an adhesive swathe (A) is passed over the chest piece and around the body (Figs. 5 and 6). The padding is then adjusted over the upper gutter, and the strap (B) is placed in such a manner as to hold the splint well up in the axilla and also crosses over the deltoid so as to hold it fixed, while it also serves to sustain the upper fragment in position. The forearm is then flexed and the strap (C) is applied. A bandage may now be applied if desired and the apparatus is completed.

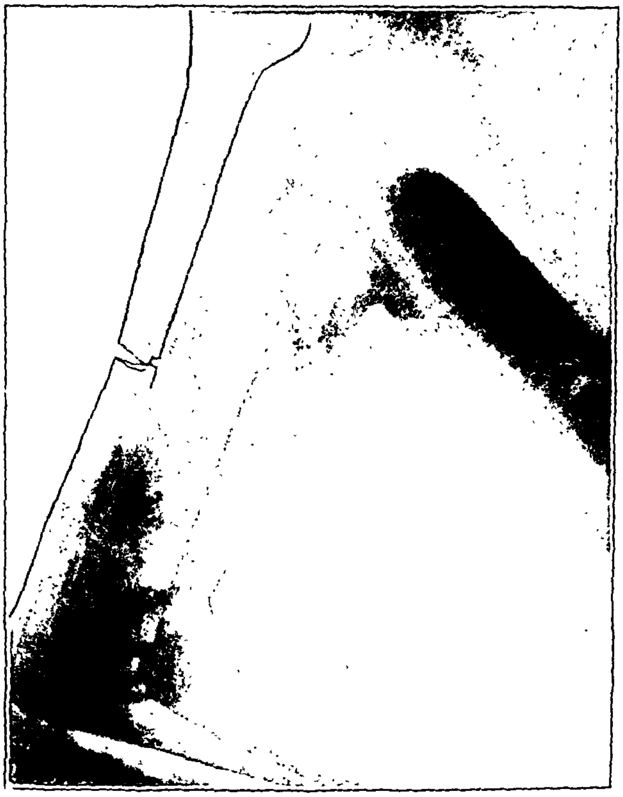

Fig. 10.—Case 2: x-ray showing well the application of the splint and its relation to the chest and upper arm; fracture seen at middle of shaft of humerus in good appostion and excellent alignment.

CONCLUSION

We wish to express our thanks to Dr. F. J. Cotton for many timely suggestions. His opinion of the splint is as follows:

> I had nothing to do with the original planning or designing of this splint, but have had an ample opportunity to test it clinically. The case here noted as Case 1 (Figs. 7-9), a peculiarly difficult case in which to get and maintain position, was in my charge, and there have been several others at various times since then. The splint has, in short, been thoroughly tested on suitable clinical material on our service and has proved eminently satisfactory.
>
> Obviously, its proper application calls for some skill, and it must be watched as must all splints; but in reasonably skilled hands remarkably satisfactory results are possible, even in most difficult cases. I regard it as a very definite step in advance of our previous apparatus for most fractures of the humerus in adults.

"I Read It Through Carefully.—I did not know what it meant, or even what it was trying to prove. This worried me a good deal until I showed it to two men more than usually acute intellectually, and they confessed that it was beyond them. What excuse is there for writing . . . [what] is not perfectly clear and plain to everybody who can read? . . . Obscurity is a common fault." This by a writer in *Printer's Ink*, is worth attention by medical men, who so often write so hastily as to leave clearness out of account.

GIANT-CELL EPULIS OF LOWER JAW

REPORT OF A CASE

ALEXIUS McGLANNAN, M.D.
BALTIMORE

GENERAL DESCRIPTION

Epulis is a slightly malignant tumor of the jaw, growing from the connective-tissue cells between the mucous membrane and the periosteum of the alveolar border.

The tumors grow slowly, seldom reach a large size, or cause destruction of the bone. The teeth are often loosened by the growth of the tumor into the root sockets. As far as is known, these tumors never give metastases, but will recur locally if their removal is not complete. Histologically they are sarcomata of low malignancy, giant-celled and fibro-spindle-celled, or vascular fibromata (angiofibroma). An epulis always may be cured by complete excision.

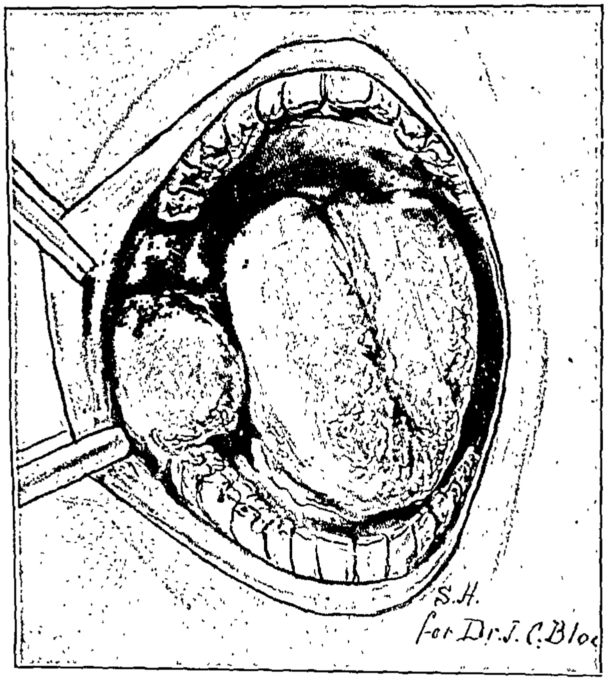

Fig. 1.—Appearance of the tumor in the mouth. The clamps are on the divided cheek. Note the good exposure obtained by this incision. (From a painting made at the operation by Miss Hayes.)

These tumors seem closely related to inflammatory reaction. About 25 per cent. of cases give a distinct history of traumatism as an etiologic factor. A certain number of patients date the growth of the tumor from the extraction of a tooth; but here it is more than likely that the tumor led to the removal of the tooth. In many cases the tumor occurs around normal, firm and evenly placed teeth.

In the clinical history the symptom of onset most frequently is at the tumor itself. The tongue feels the small swelling on the side of the alveolar border of the jaw. Occasionally pain may be the first symptom—toothache or pain in the jaw itself.

The small tumor looks like a gum-boil, but is not so painful or tender; often, indeed, it is not at all sensitive. The swelling begins on the inside of the jaw at the border of the teeth and extends down on the alveolar process. As it grows it surrounds the tooth or teeth and extends on the outer border. The growth is always greatest on the inner side of the teeth, and is never confined to the outer side alone.

The tumor is always firmly attached to the teeth, or to the alveolar border. It shows little tendency to infiltration beyond the alveolar process. On the lower jaw it is distinctly limited by the alveolar border, while on the upper jaw it may infiltrate below the mucous membrane over the hard palate. A vascular epulis may pulsate.

The mucous membrane over the tumor remains intact for a long time. When it ulcerates the surface of the tumor appears red, finely lobulated, and vascular. From such ulcers there are frequent slight hemorrhages.

These epulides occur at all ages, being most common in the third decade of life. They usually have a history of long duration, and are more common in women than in men. The position of the growth is most often about the bicuspids and first molars; it is less frequently found around the incisors, and is extremely rare posterior to the last molar teeth.

Differential diagnosis must be made between epulis and (1) sarcoma of the bones of the jaw, (2) the dentigerous cysts, and (3) adamantine epithelioma.

The alveolar limit of the epulis distinguishes it from the periosteal sarcoma. While these tumors may appear at the alveolar border, the swelling spreads rapidly over the body of the bone. More often the periosteal tumor begins on the body and extends to the border.

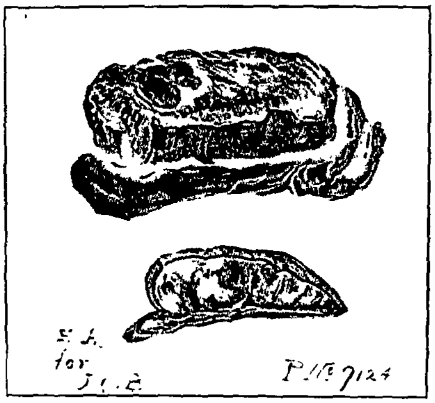

Fig. 2.—The tumor after removal, and on section.

The dentigerous cyst is formed by the distention of the connective-tissue sac about an undeveloped tooth. The distending cyst thins the overlying bone by pressure. The growth shows itself as an asymmetrical swelling of either jaw, situated beyond the alveolar process, covered by intact mucous membrane and a thin shell of bone.

The adamantine epithelioma may be considered a dentigerous cyst whose cavity is filled with proliferated enamel epithelium. It has the same clinical symptoms as the cyst. Both tumors are shown in *x*-ray pictures as areas of bone absorption, and at exploratory incision are easily recognized by the character of their contents.

Treatment of epulis is by conservative operation. When the tumor is large and spreads over the area of several teeth, an incision is made through healthy mucous membrane, the teeth are extracted, and the tumor with a portion of the alveolar border is removed. An operation of this extent will always cure the disease.

In early cases, and when the tumor takes in only one tooth-root, it is sufficient to take the tooth and tumor, dividing the mucous membrane and burning the tooth socket with the Paquelin cautery. Still earlier tumors may be removed by the cautery alone without extracting the tooth. This very conservative treatment of the small tumors is justified, because by this means we are able to avoid deformity and run no risk beyond that of local recurrence, in that these tumors do not form metastases, even after repeated recurrences. When the tumor is a recurrent one, however, it is better to do the radical operation outlined above.

The following case is of interest because of the rare position of the tumor, posterior to all the teeth, in consequence of which a rather extensive operation was required for its exposure and removal.

REPORT OF CASE

Patient (Surg. No. 555)—A white man, aged 50, was admitted to Dr. Bloodgood's wards at St. Agnes Hospital, July 22, 1908, for the cure of a tumor (epulis or giant-cell sarcoma) of the lower jaw. His previous history was unimportant, except for the repeated attacks of quinsy. There was nothing in the history or physical examination to suggest lues. The swelling of the jaw had been present three years, beginning as a small lump on the inside of the angle of the jaw, on the right side. This gave him no pain, and the growth had extended slowly without tenderness or pain. For about a year the last molar tooth on this side had been loose, and during this time the patient had toothache, which he relieved by picking the tumor so that it bled. The growth would bleed occasionally, especially after anything hard was masticated. The patient felt that the original lump began as a result from a carious wisdom tooth whose roots had never been extracted.

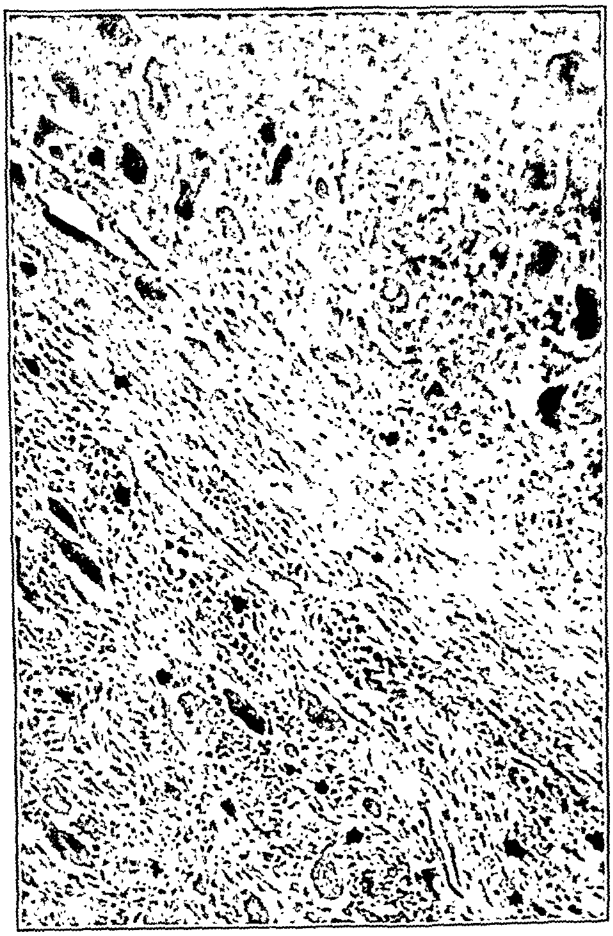

Fig. 3.—Histologic appearance of the tumor; low-power magnification. Photomicrograph by H. Schapiro.

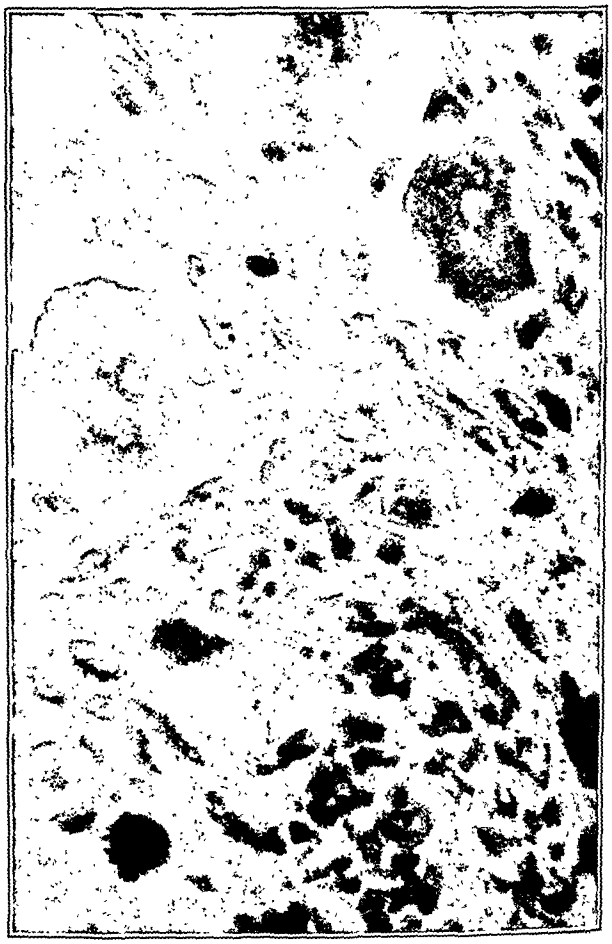

Fig. 4.—Histologic appearance of tumor, high-power magnification. Photomicrograph by H. Schapiro.

Examination.—The fungous swelling extended from the angle of the jaw to the anterior pillar of the fauces, and forward to the second molar tooth. This tooth was loose and tilted inward. The surface of the growth had the appearance of fibrous granulation tissue. It felt soft, but was not friable and did not bleed when handled. The tumor was distinctly limited to the alveolar process, and did not extend on the cheek or tongue. The submaxillary lymphatic glands were palpable.

The patient was given an antiseptic mouth-wash and a chlorate of potash tooth-paste, and put on sterile food for six days preparatory to operation.

Operation, July 28, 1908 (McGlannan).—The ether was administered by Dr. S. G. Davis, by means of his spray and tube. The cheek was split from the angle of the lips to the ramus of the jaw, below the line of the parotid duct. (Fig. 1.) This gave excellent exposure and no trouble was experienced in dividing the healthy mucous membrane and periosteum beyond the tumor. By blunt dissection the periosteum was lifted and a thin shell of bone taken with the tumor. In order to do this the first molar was extracted and a hole drilled just under it. The Gigli saw was passed through this hole and the bone cut through by means of it. The removal of bone was completed with bone forceps and the raw surface burned with the Paquelin cautery. Closing the wound, the mucous membrane of the floor of the mouth and of the outside of the jaw were drawn toward one another with fine silk. The cheek was sutured with fine silk inside for the mucous membrane, and alternate fine and coarse silk on the outside for the skin and muscles. The lip was carefully restored with fine silk sutures. A protective drain was put in the posterior angle of the cheek wound and the anterior portion sealed with foil, cotton and collodion. The face was then put up in a voluminous gauze dressing with a crinoline helmet.

Postoperative History.—The patient made a good recovery. There was a little discharge of pus from the posterior portion of the wound for some days, and a salivary fistula remained for about two weeks. The lip end of the wound healed firmly by first intention. There was no deformity of the mouth, and the scar was entirely concealed by the patient's beard. There has been no sign of recurrence of the tumor.

Pathologic Report (Path. No. 9124).—Gross Description: The fungous tumor is elliptical, 2.5 cm. and 2 cm. in diameter, and elevated about 1.5 cm. It was removed with mucous membrane, periosteum and bone. The tissue was firm and almost entirely covered by mucous membrane. On section the surface was dark red, lighter at the base with perpendicular striations. Nothing was expressed on pressure. The tumor was distinctly circumscribed and did not infiltrate the normal tissues. No tooth roots or cavities were present.

Microscopic Examination: The section showed giant cells in an extremely vascular stroma with marked tendency to fibrosis and distinct lobulation. There was some blood pigment present. The mucous membrane shown is normal.

114 West Franklin Street.

POPLITEAL ANEURISMS

GASTON TORRANCE, M.D.
Surgeon to the Hillman and St. Vincent's Hospitals
BIRMINGHAM, ALA.

I. A POPLITEAL ANEURISM, IN A PATIENT WITH ONE LEG, SUCCESSFULLY TREATED BY THE MATAS METHOD

C. F., a colored miner, aged 41, was admitted to my service at the Hillman Hospital on July 8, 1908, with a pulsating tumor of the left popliteal space. His right leg had been amputated just below the knee, twenty-two years previously, as a result of severe burns. He denied any specific history or injury of this leg. He first noticed a lump, about the size of a lemon, in this region two years before, and said that it always grew larger when he was at work and decreased in size when he kept quiet. He had not had much pain, but the foot had been cold and stiff for the past year. The mass had not increased in size, and pulsated slightly; a bruit could be heard; it was firm and there was some question as to its being an aneurism.

Under ether, with a tourniquet on above the knee, an incision was made down to the vessel, the sac opened and several large clots, which were well organized, were turned out. No blood was encountered until the last clot was removed. This clot showed a groove on its under surface which formed the upper boundary of the blood channel; the openings of the vessel were about 2 cm. apart and were connected by a groove of about the same depth as the one in the blood clot which had been removed. Nature was making an attempt to cure the aneurism and the channel thus formed carried almost the normal blood supply. The openings into the sac were closed with fine silk and the sac was obliterated by infolding and suturing with chromic catgut. A small silkworm-gut drain was introduced and left in place for a few days. The collateral circulation proved to be good. The wound healed by primary union, and the patient was discharged cured at the end of a month.

II. VENOUS "ANEURISM" OF THE POPLITEAL SPACE*

Mr. W. S. A., a merchant, aged 32, a patient of Dr. W. H. Hutchinson of Childersburg, Ala., first consulted me on Nov. 30, 1908, for a vascular swelling of the right popliteal space. He had been under the care of Dr. R. H. Cranford of Moselle, Miss., who after discussing the case with Dr. R. Matas of New Orleans, came to the conclusion that it was an ordinary arterial aneurism and advised him to go to New Orleans for operation. The swelling had first made its appearance about four years before. The patient experienced no pain or discomfort from it until about three months before the consultation, when he began to have a dull aching pain in the calf of the leg and lower part of the thigh. There was nothing in his family history bearing on the condition. He had always had good health and denied any specific trouble. He had an inguinal hernia on the same side, which he first noticed ten years ago following a blow in the groin. He wore a truss and experienced no inconvenience from this. There were no enlarged veins on the legs or any part of the body.

On inspection the popliteal space presented a soft vascular swelling about the size of a large English walnut; no pulsation could be felt, but there was some tenderness on palpation; no bruit; when the patient was lying down the tumor completely disappeared. A diagnosis of venous aneurism was made and operation advised.

The patient was admitted to the private wards of St. Vincent's Hospital a week later, and under ether the swelling was dissected out, a tourniquet having been applied in case there should prove to be an arterial connection. The vein showed a thin saccular appearance and was excised between ligatures, a small branch on the under surface also being ligated. The wound was closed, after inserting a small silkworm-gut drain, and healed by primary union. There was no pain or discomfort after the operation. The patient left for his home at the end of two weeks, and reports at the end of six months that he has been relieved of all pain and is perfectly well.

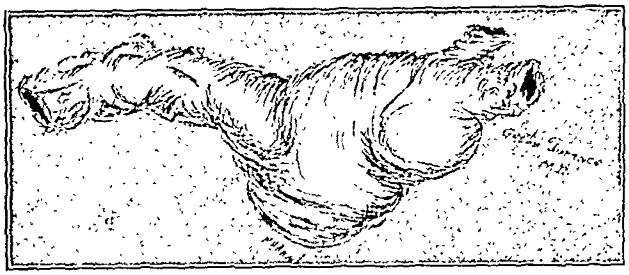

Fig. 1.—Venous aneurism; specimen distended with paraffin and hardened in formalin.

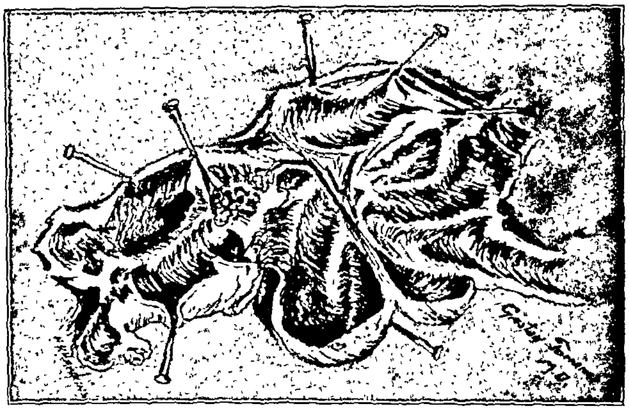

Fig. 2.—Venous aneurism; specimen laid open after having been filled with paraffin and hardened in formalin.

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* Dr. Matas suggests "venous ectasy" or "venous sac" as a more suitable term to be used in this case.

Fetus Born Disemboweled.—Dr. J. M. O'Connell, Ponca, Neb., reports a rare obstetric case as follows: Mrs. E. G., aged 19, a well developed primipara, had her last menstruation September 10, and gave birth, May 12, to an 8½ pounds, male, R. O. A. presentation. The time of labor was fourteen hours, of the first stage, thirteen hours. The babe was delivered with complete evisceration of the intestines, through a transverse laceration of the abdominal walls, adjacent to the umbilical cord on its right, and extending about one inch. Nature's efforts were uninterrupted by anesthesia, or instrumental or other interference. The tissues surrounding the umbilical vessels were not unusually thin in texture. The infant never thoroughly reacted from the shock, and succumbed in eighteen hours. Why should such a condition obtain, unless because the legs of the fetus were flexed the reverse of their accustomed position in the pregnant uterus, thus producing a tense and convex prominence of the infant's abdomen in the actively contracting womb, whose expulsive efforts ruptured the babe's abdomen with the result stated? The literature at my command records no analogous case.

A METHOD OF DIAGNOSTICATING FLOATING KIDNEY BY THE *X*-RAY

SIDNEY LANGE, M.D.
Radiographer to the Cincinnati Hospital
CINCINNATI

The great advance in *x*-ray technic in the last few years has not only put the diagnosis of renal calculi on an accurate basis, but has rendered visible the kidney itself. Not many years ago it was considered remarkable to obtain an outline of the kidney on the skiagram. Now it is a common observation. Indeed, where the technic has been perfected it is a routine matter to obtain the kidney shadow, the technical prerequisites being a soft tube and a quick exposure while the patient suspends respiration. In this way I have been able repeatedly to diagnosticate nephroptosis and have seen the diagnosis verified by palpation or operation.

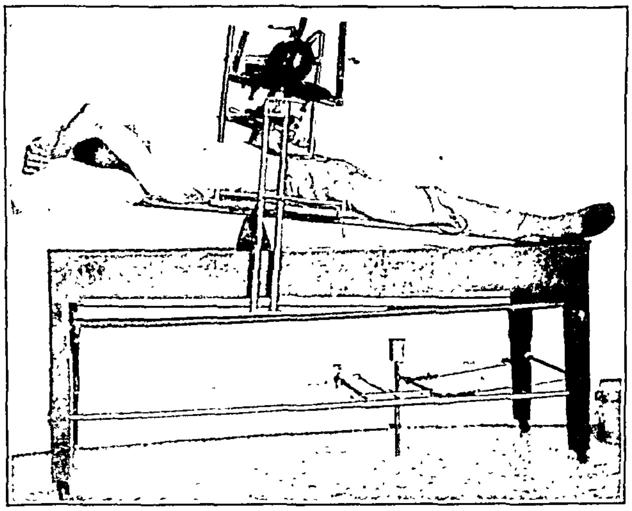

Fig 1.—Skiagraphing floating kidney, first position.

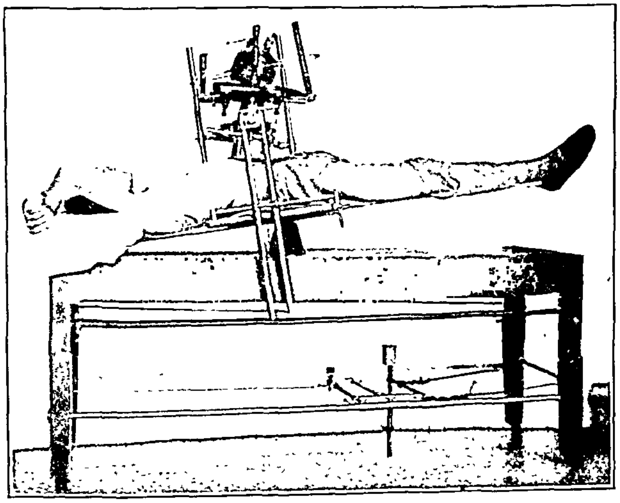

Fig. 2.—Skiagraphing floating kidney, second position.

It occurred to me that the *x*-ray diagnosis of floating kidney could be made uncontrovertible by showing the kidney outline in different places on two skiagrams taken at different times or in different positions. The accompanying photographs illustrate a method (suggested to me by Dr. R. W. Thomas) of skiagraphing a floating kidney in two positions. Starting with the patient in the standing position in which the loose kidney descends to its lowest point, the patient is placed on the inclined plane with the feet low, and the kidney region is skiagraphed (Fig. 1). The incline is then reversed, making the head low and allowing the kidney to slide cephalad. Manual pressure may aid in causing the kidney to slide back into its niche. Another skiagram is then made, as shown in Figure 2.

22 West Seventh Street.

TEST-TUBE RACK USED IN THE PREPARATION OF LOEFFLER'S BLOOD SERUM

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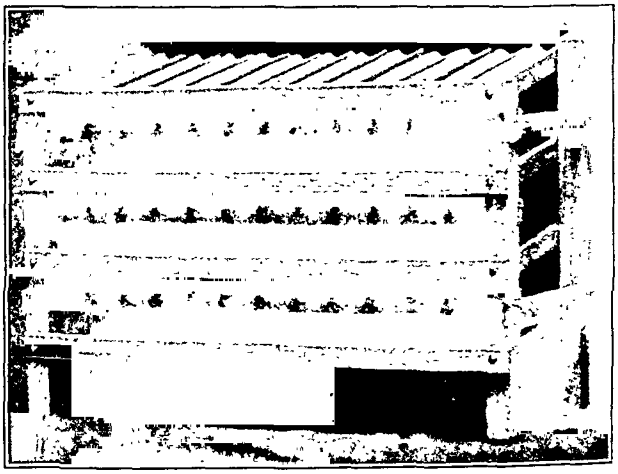
Pathologist, Central Indiana Hospital for the Insane
INDIANAPOLIS

The technic we use in this hospital in the preparation of the blood serum culture media does not vary from that given in text-books, except in one particular. At the time of coagulation we place the tubes on a rack which we have devised, which is so designed that it will fit in any medium-sized Bausch and Lomb hot air sterilizer, thus giving better results. It will not be amiss, however, briefly to recapitulate the technic.



Test-tube rack. It should be placed so as to secure equal distance from all sides of the sterilizer.

Blood from the bullock, killed preferably by the Jewish method, is received in a clean gallon bottle. The bottle is then placed in the refrigerator and allowed to stand for twenty-four hours, thus allowing the blood to clot firmly.

The serum is pipetted off, care being taken not to break the clot, thus keeping the serum as clear as possible. The serum is then taken and mixed with glucose bouillon in the following proportion: glucose bouillon 1 part, beef blood serum 3 parts.

Tubes are then filled with the mixture, to the depth of 3 or 4 cm. They are then placed on the rack, which gives them the proper slant. They are then placed in the hot-air sterilizer and submitted to a temperature of 85 to 90 C. "The temperature should not exceed 90 C. or fall below 85 C., and the door should be kept closed."[1] At this temperature they are allowed to remain two hours. They are sterilized by being submitted once, in an autoclave, to a temperature of 110 C. (six pounds pressure) for fifteen to twenty-five minutes.

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1. Mallory and Wright: on "Pathologic Technic."

My friend Mr. Cobb has ingeniously made a very useful and inexpensive test-tube rack, consisting of four upright posts (the two anterior measuring 10 inches in height, the two posterior measuring 11 inches in height), joined by two cross-bars at each end (measuring 6 inches in length) and longitudinally by eight bars (four anterior and four posterior, measuring 15 inches in length). The four anterior are placed at a lower level than the posterior ones, in order to give the "rests" a slope of half an inch. Extending crosswise from the longitudinal bars there are series of "scalloped rests." Each layer will support twelve tubes, and the longitudinal bars support four layers, thus making the capacity of the rack forty-eight tubes. At the foot of each layer there is a thin foot-rest to prevent the tubes from slipping forward.

This apparatus can be modified, increasing the capacity of the rack, but the principle to be borne in mind is the slanting fixed rests made of wood and the proper distance of the tubes from the walls of the sterilizer.

The advantages of this apparatus are: 1. The proper distance from the wall of the sterilizer is secured. 2. An equal distribution of heat is secured for the tubes as nearly as possible. 3. There is an even, smooth and properly proportioned slanting surface in each tube.

I wish to thank Mr. Cobb for the interest he has taken in perfecting the apparatus, as well as Dr. J. J. Hoffman for the accompanying illustration.

BOTTLE IN THE RECTUM

ISAAC L. FIREBAUGH, M.D.
ROBINSON, ILL.

On the morning of May 31, 1909, a man, aged 46, unmarried, came into my office with this statement: "Doctor, I have a bottle in my bowels." Examination showed a large bottle, one end resting well above the sphincters in the hollow of the sacrum, while the other end could be distinctly felt through the abdominal wall just behind and beneath the navel. The patient stated that he had fallen on the bottle at 10 o'clock the night before. About the only symptoms were an irritation of the bladder, with a desire to pass water every few minutes. He was sent to the Robinson Hospital and made ready for operation.

At 10 a. m. an anesthetic was given, a catheter passed into the bladder about a dram of urine drawn, and the sphincters were widely dilated. After an ineffectual effort at extraction with the fingers a slip noose of stout tape was worked up around the body of the bottle, when by traction on the tape and the use of one blade of obstetric forceps used as a sort of vectis and as a skid over the back of the spincter muscles, the bottle was delivered intact. The bottle is 8 inches long and 7½ inches in circumference, and therefore 2½ inches in diameter. There appeared to be little or no laceration. The patient left the hospital that evening and went to work the next morning and has worked ever since.

Pubiotomy in Argentina.—E. Canton has performed the true Gigli operation in 4 and the subcutaneous operation in 20 cases, his list being the first long series of pubiotomies yet published in South America. It forms the leading article in the *Semana Medica*, of March 11, 1909, accompanied by illustrations and the details of the 24 cases. The ultimate outcome was satisfactory and there has been no incontinence or prolapse in any of the patients. All recovered but one, who succumbed during convalescence to pneumonia. All the children were delivered alive but two died soon after birth as labor had been too long under way before the patients arrived at the hospital. His verdict is most favorable.

CASE OF PURPURA FULMINANS

F. E. BERTLING, M.D.
SPOKANE, WASH.

The patient was a healthy young man, aged 18. He awoke in the morning with a severe sore throat. He used hydrogen peroxid as a gargle and went to work as usual. In the evening his throat was not much better, so he used the peroxid gargle again. The next morning I was summoned and found him with a temperature of 106 F. and a very severe membranous angina. Owing to the presence of scarlet fever in the near neighborhood, I made a provisional diagnosis of scarlet fever, but took a culture for diphtheria nevertheless. My scarlet fever diagnosis was apparently justified, for that evening there was a brilliant scarlet rash all over the neck, chest and abdomen, which by the next morning also covered the lower limbs. At noon of this day a bluish-black discoloration appeared on the upper part of each thigh and the lower part of the abdomen. The young man was delirious, his extremities were cold and the discolored area extended rapidly, the patient passing away at 4 a. m. the next morning, about seventeen hours after the first appearance of the purpuric rash and about seventy hours after the first symptoms of illness were noticed. The culture was negative for diphtheria. No autopsy could be secured.

208 Granite Block.

Longer Daylight.—There are a great many things to be said in favor of advancing the clock by one hour during the summer. The principal object is to apportion a larger part of the period of daylight to evening rest and recreation. The close of the working day is so near sunset that by the time the evening meal is over the stretch of remaining daylight is too short for any lengthy outdoor pastimes. Those who have spent part of the summer in northern latitudes, where the later sunset and longer duration of twilight combine to make the summer evenings the most delightful period of recreation, understand perfectly the motive and force of the arguments which have led to the present widespread movement in favor of a longer daylight day. The evening is the ideal time for outdoor recreation. The mind and body are relieved of the stress of the day's occupation, and the temperature is cooler. The arrangement advocated by the National Daylight Association is that from and after 2 o'clock in the morning of the first day of May in each year, until 2 o'clock in the morning of the first day of October, the standard time shall be one hour in advance of the standard time now in use. This result is to be secured by advancing the hands of the clock one hour on May 1 and moving them back one hour on October 1. The change would involve a shortening of the hours of sleep only on the last day of April. Subsequently through the summer months people would get up and retire by the clock as usual, and the regular schedule of railroads, factories and all social institutions would be maintained as before. The public would have the benefit of two or three hours of daylight after the evening meal, instead of one or two hours as under the present arrangement. Some adjustment of railroad schedules would be needed on the two days which marked the opening and close, but with those two exceptions regular schedules could be maintained. A bill before the British Parliament for a change similar to that related above has the indorsement of the Education Committee of the London County Council, of over one hundred municipal corporations and town councils, of the national convention of Royal Burghs of Scotland representing about two hundred towns, and of one hundred and thirty chambers of commerce, associations, and clubs. A similar bill is before the Canadian Parliament, and the special committee to which it was referred says that, in view of the almost unanimous support of the bill, and its facility, it should be put in force as soon as possible. It is probable that a similar bill, which has already received wide journalistic indorsement, will be introduced in France.—Abbreviated from the *Scientific American*.

AN IMPROVED RECTAL IRRIGATING TUBE*

A. L. WOLBARST, M.D.
Consulting Genitourinary Surgeon, Central Islip State Hospital; Attending Genitourinary Surgeon, Beth Israel Hospital and West Side German Dispensaries
NEW YORK CITY

In the treatment of inflammatory conditions of the prostate, applications of heat or cold, by means of a recurrent rectal irrigating tube, are often found to be of considerable value. I have employed most of the models on the market, notably the Kemp and the Chetwood tubes. These tubes seem to me to have two serious disadvantages, which I have tried to remedy in the model here presented (Fig. 1). Both the Kemp and Chetwood tubes are made entirely of glass, pressed-rubber or metal, and when inserted into the rectum are apt to cause severe pain when the hard and firm tip comes into contact with the tender and inflamed prostate; then, too, the inflow of fluid into the rectum is through one or, at most, two openings. These openings are often obstructed by contact with the rectal wall or fecal matter, and the effectiveness is thus diminished.

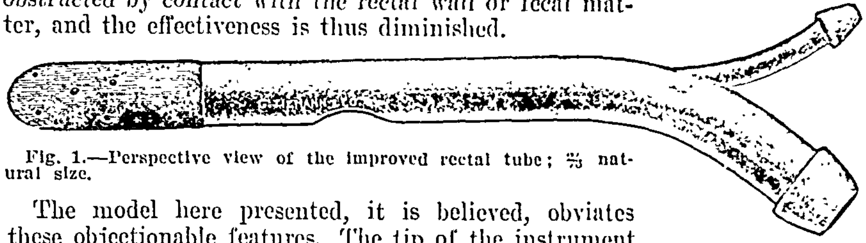

Fig. 1.—Perspective view of the improved rectal tube; ⅔ natural size.

The model here presented, it is believed, obviates these objectionable features. The tip of the instrument is of soft, pliable rubber, which gives easily on contact with the rectal wall, and the flow of fluid into the rectum is through a number of small openings, thus providing a fountain spray instead of a single or double jet.

The apparatus consists of two tubes, a small one inside of a larger. The water enters through the small tube (Fig. 2, A) and fills up the soft rubber pouch (Fig. 2, B), which is perforated with numerous pinhead openings, through which the fluid enters the rectum. Escape from the rectum is only possible through the large opening (Fig. 2, D) in the larger tube (Fig. 2, C). The external sphincter (Fig. 2, F) prevents any outflow at the anus.

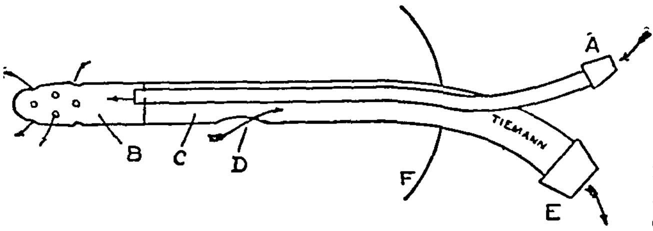

Fig. 2.—Sectional view of the improved rectal tube.

The instrument is made of nickel-plated brass tubing, with a soft rubber tip; the total length is seven inches, including the rubber tip. The diameter is equivalent to 38 of the French scale. The soft rubber tip projects 1⅜ inches beyond the end of the large tube; it is slipped over the bulbous end of a short metal tube, the distal end of which is provided with a male thread, which is screwed into the end of the large tube (Fig. 2, C) and thus securely wedged in place. We are also thus enabled to unscrew the rubber tip and thoroughly clean it and the metal tubes at will.

105 East Nineteenth street.

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* Presented at the meeting of the American Urological Association, at Atlantic City, N. J., June 8, 1909.

A CASE OF VEIN ANESTHESIA

LEIGH F. WATSON, M.D.
OKLAHOMA CITY, OKLA.

I think it worth while to report the following instance of vein anesthesia, a method recently proposed by Bier[1] and described in The Journal.[2]

History.—R. N., aged 21, on June 24, 1909, stepped on a rusty nail which penetrated the sole of the left foot one inch. The foot and ankle began to swell immediately. The next day he was admitted to Rolater Hospital and treated in the service of Dr. J. B. Rolater. On admission his temperature was 102 F., later it rose to 103 F.

Treatment.—Hot moist dressings of cresol solution were applied and changed frequently and antitetanic serum administered. Under vein anesthesia, an incision two inches long and one and a half inches deep was made over the wound caused by the nail. After thorough curetting the wound was cauterized with phenol, followed by alcohol and then with tincture of iodin, and finally a hot dressing of cresol solution was applied. Fifteen minutes before the operation, the patient received ¼ gr. of morphin sulphate hypodermically. A tourniquet was applied just above the knee. A solution of cocain hydrochlorid 0.2 per cent. in physiologic saline solution was prepared, 15 c.c. (cocain, gr. ½) of this solution was injected into the external saphenous vein in the upper third of the leg. Anesthesia appeared in thirty minutes as a sensation of numbness, but did not extend above the level at which the cocain solution was injected. The wound was allowed to bleed freely as the turniiquet was gradually loosened. Sensation appeared almost immediately on removing the tourniquet, although before it was loosened the patient said he felt very comfortable and somewhat sleepy, the latter probably due to the morphin and the sequestration anemia (Dawbarn).

Therapeutics

ACUTE RHEUMATIC FEVER

Dr. J. C. Meakins presents the results of his investigations as to the etiology of this disease in "The Medical and Surgical Report of the Presbyterian Hospital of New York City" (vol. viii, December, 1908). His experiments seem to bear out the pretty general belief that this disease is due to the streptococcus, but that there is any one strain of the streptococcus family that is the only cause of this disease seems not to be proved and seems not to be a fact. Meakins has found streptococci in the tonsils of patients suffering from rehumatic fever, and believes that the recurrent attacks of the disease are often due to reinfection from these streptococci which have been harbored in the deeper tonsillar tissue. He believes that the tonsils, and probably the pharynx, are the most frequent portals of entrance of the infection, although they are probably not the only way in which the streptococcus infection reaches the blood. He thinks it probable that the infection may enter the blood through the intestinal mucosa.

The practical application of these investigations is as complete an antiseptic treatment of the mouth, throat and gastrointestinal tract during rheumatic fever as is possible. The mouth and throat should be washed and gargled with peroxid of hydrogen solutions, boric acid and alkaline cleansing solutions almost as frequently and persistently as in follicular tonsillitis and diphtheria. Probably nasal sprays and postnasal cleansing with mild alkaline solutions are also advisable.

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[1] Arch. f. klin. Chir., Berlin, lxxxviii, 1908, No. 4.
[2] The Journal A. M. A., May 1, 1909, page 1466.

The intestinal canal should be kept active with saline cathartics, the excessive action from which may be inhibited with small doses of morphin, as 1/10 of a grain, and the best bowel antiseptic should be administered. It is a fact that the specific for acute rheumatic fever, viz., salicylic acid, is also the best bowel antiseptic that we possess. Therefore, salicylic acid in some form is the drug that should be administered. The best form in which to administer it and the size and frequency of the dose must depend on the individual patient. Theoretically, from the antiseptic standpoint, small doses frequently repeated should be the most efficient.

Salicylic acid is generaly best administered in the form of sodium salicylate as it is absorbed mostly as a sodium salt and as the latter is less irritant to the stomach than the former. Phenyl salicylate (salol) is the pleasantest method of administering it by the stomach, but the phenol it contains may cause irritation of the kidneys, and certainly salol should not be administered if there is albuminuria. The many other preparations of salicylic acid that are bland for the stomach really represent but small doses of the acid; therefore, generally, instead of prescribing an expensive patented preparation of salicylic acid, the dose of the sodium salicylate should simply be made smaller, and unpleasant symptoms will be prevented.

Certainly large doses of salicylic acid, in any form, sufficient to cause salicylism (ringing in the ears, fulness of the head, flushing of the face, irritation of the skin, and slight cardiac disturbance) should be administered only for a day or two. Small doses can be long tolerated without discomfort or any unpleasant or undesirable symptoms. In other words, as soon as the joint pains have become lessened, the dose of the salicylate should be reduced. It should also be remembered that the salicylic acid prepared from vegetables is but little depressant, and perhaps not at all depressant, to the heart, while synthetic salicylic acid is depressant to the heart and should never be given internally.

BOILS

Dr. G. T. Jackson, New York, describes his treatment of these troublesome affairs in the *American Journal of the Medical Sciences,* June, 1909. He believes that boils are entirely due to local infection with staphylococci; that they occur most frequently at parts that are injured or irritated, as the back of the neck, from the chafings of stiff collars; that groups of boils occur from the spreading of the infection; and that the same infection can cause an epidemic of them in groups of associated persons. In other words, he does not believe that a constitutional disturbance has anything to do with the eruption of boils. Anything that causes irritation of the skin, as scabies, and the itching and consequent scratching and abrasion of the skin gives an opportunity for the pus organism to gain access to the deeper tissues.

Although boils are not caused by a constitutional condition, it is certainly true that eradication of the infection is much easier when the systemic condition is perfect than when the normal fighting power or tone of the individual is deteriorated. Therefore, it seems to be true that when there is constitutional weakness and a boil develops others are more likely to occur than in individuals who are otherwise well.

The old-fashioned poultices to hasten the "pointing" of the boil is a very good way of causing the infection to spread and to infect other parts. Such warm, moist, sticky applications most beautifully promote the growth of the germ of infection, and especially after the boil has been opened.

Jackson's method of treating boils, which method he attributes to Dr. George H. Fox, is as follows:

If the patient is seen before the boil has "pointed," "it may be aborted by injecting into it a drop or two of a 5 to 10 per cent. solution of phenol (carbolic acid), or by just touching the raised surface of the boil with 95 per cent. phenol and then covering the boil and the surrounding surface of the skin with an ointment containing from 5 to 10 per cent. of salicylic acid."

If the boil has already pointed, "a small bit of cotton is wound around a sharp pointed stick, which, after being dipped in a 95 per cent. phenol solution, is bored into the soft point of the boil." This is only slightly painful, as the phenol quickly anesthetizes the injured nerves. The pus is thus allowed to escape, and the inside of the boil is disinfected. The indurated mass of the boil should not be squeezed, as by Nature's process the infected region has been thoroughly surrounded by walls of protective leucocytes. Next, "the skin in the region of the boil is washed with peroxid of hydrogen solution or with bichlorid of mercury solution (1 to 1,000), and then a 5 to 10 per cent. salicylic acid ointment is spread on cloth, or several layers of gauze, and gently laid over the boil and surrounding region."

Jackson says that this is generally the end of the boil, but if it is a large one the operation may be repeated on the next day. The ointment should be kept constantly on the affected part for a week. Adjacent boils, or boils on other parts of the body, occurring from a transference of the infection, should be treated in the same way.

If there is severe pain from the distention or congestion of the part affected, instead of using the warm poultices which certainly do relieve pain, although tending to spread the infection, "compresses of hot boric acid solution may be used."

A 10 per cent. salicylic acid ointment may be made as follows:

℞.	Gm.		
Acidi salicyli	5		ʒiss
Unguenti	50	or	℥ii

M. et Sig: Use externally as directed.

The value of the injection of antitoxic serums made from the infection present in the individual, when furunculosis is generalized or when recurrent abscesses occur in different parts of the body, should not be forgotten. Also, in recurrent furunculosis and in multiple abscesses the value of the internal administration of yeast should be remembered.

Determination of Urea and Ammonia.—The proposition of Spiro to combine the determination of urea and ammonia by first eliminating ammonia by the method of Folin and then determining the nitrogen in the residue by the Kjeldahl method is shown by Howe and Hawk, in the *Journal of Biological Chemistry,* February, 1909, to be accurate when applied to mixtures of urea and ammonium chlorid, but they find that it is inaccurate when applied to complex mixtures like the urine because the nitrogen of creatinin and hippuric acid and a part of the nitrogen of the uric acid are determined as urea nitrogen, and it is not possible to apply any correction that will permit one to obtain even approximately accurate data as to the actual urea content of a given urine.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 31, 1909

TROPICAL DISEASES

The address by Dr. McElroy that appears in this issue, besides being a comprehensive review of the recent advances in our knowledge of tropical diseases, emphasizes a need that is becoming more and more obvious, viz.: the necessity of more attention being given in our country to instruction and research in these diseases. In the British Isles they have already more than one institution specially devoted to this subject, and France and Germany, the other chief colonizing countries, are also similarly provided. We should not lag behind; our interest in the tropics is by no means inconsiderable, and we have even in our home territory large regions that are subject to the invasion of tropical diseases and which afford a favorable soil for their development and spread. Uncinariasis, which is generally counted among the tropical diseases, is endemic in our southern states, and the necessity of our recognizing its existence has been accented very recently by the finding of its prevalence in the army recruits that come to the recruiting offices in various parts of the country. Fortunately, this evil is easily met, but there are others that may become more serious.

A creditable amount of work on tropical diseases has already been done in this country, and much more will probably be done, and can be without entirely meeting our responsibilities in this direction. The medical staff of the army, as exemplified by Colonel Gorgas, and the officers of the U. S. Public Health and Marine-Hospital Service, are doing good work in this line, but there should be better facilities for instruction and research work open to the non-official physicians. A postgraduate school with laboratory under government auspices is the remedy Dr. McElroy seems to favor. There is no question but that it could be very properly considered by the government for its own employés and officials in the government medical services. In such an institution the study of these disorders could be thoroughly carried on.

We should have, not only laboratories for the study of, but schools of instruction in, tropical diseases, whether directly supported by the government or by private endowment, to which any competent physician could have recourse. With our extensive immigration from countries where many of these diseases prevail and our growing intercourse with tropical regions, we will soon not have to go far beyond our own boundaries to find the disorders. They will come to us fast enough, and the more prepared we are to meet them the better it will be for us.

THE HYPOTHETICAL QUESTION IN EXPERT TESTIMONY

Medical expert testimony has received a severe blow from the way it has been used in certain prominent criminal trials of late years. It has been pronounced of no value at all, or even worse than that, by judges in the highest courts, and the public generally has come to place but little faith in the opinions of so-called medical experts. This is due to several causes lying behind the unfortunate exhibitions that have directly given rise to this discredit. The subject is well discussed in a recent paper by A. T. Clearwater,[1] who, very justly attributes part of the evil to the bench and bar. His first reason seems really the principal one; that is the lack of any satisfactory standard of expertness, a condition which invites the testimony of charlatans and unscrupulous pretenders. The laxity of trial judges in admitting testimony and the freedom given to lawyers to make it difficult for a self-respecting person to endure their cross-examinations are also mentioned by him and are not matters to be disregarded. A large part of the criticism which has been made lately has been in regard to the use of the hypothetical question, and the propositions for reform have included sometimes the recommendation of its disuse, or at least its restriction. If this refers only to the tremendously long and involved accounts of supposed events, such, for example, as were used in the Thaw trial, it might be considered to have some justice. Even a Lord Macaulay could hardly keep in mind from beginning to end all the supposed facts included in one of these long-drawn-out narrations, and it would be easy for a tricky lawyer to utilize them in tangling up a witness and damaging his standing with the jury. A well-stated case, however, including the main facts of the testimony in as few words as possible, avoiding any overstatement and putting the facts in such a way that they can be readily compared by the jury with the testimony as to the actual occurrences, seems an excellent way to utilize expert opinion. This is the view of Mr. Clearwater. It would be well also if all the expert testimony could be given after the testimony as to fact has been laid before the jury, and to have the hypothetical question of the prosecution submitted to the opinion of witnesses of both sides. In this way it will often be found that they are practically unanimous, and, the question not being as to facts, can be better compared by the jury with the actual facts as they have heard them stated by the other witnesses. There can be no restriction, as he points out, of the right of either party to call in such witnesses as he may deem important for the maintenance of his cause. Therefore, the possible evil of incompetent experts can not be excluded. Clearwater says justly, moreover, that scientific opinion to be of value must be given under undisturbed mental conditions and the insolence and abuse allowed in some courts are unfavorable for this. While this method of examination puts some witnesses on their mettle it throws the majority, this often including the most competent, into a state of mind that is productive of all sorts of possibilities of error. If trial judges will define to the jury the difference between those qualified to speak on the subject and those who are not, as it is perfectly possible for them to do, it will tend, as Mr. Clearwater says, to obviate the evil of mercenary and incompetent experts. He recommends the bill that failed to pass the last New York legislature, providing for a judicial selection of between ten and sixty qualified physicians, as an approach to the solution of this important problem.

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[1] North American Review, June.

This evil of mercenary so-called experts will probably last so long as the courts will tolerate it. There will also probably always be some prejudiced though not bad-intentioned physicians who will pose as experts without being such in the true sense of the word, and there may be plenty of persons of real acquirements and good intentions who can not give an unbiased opinion on subjects in which, for any reason, they are deeply interested. With all these drawbacks, however, it is possible to improve greatly the status of medical expert testimony before the courts and public, but to do this will need the cooperation of the bench and bar as well as of the medical profession.

BACTERIA IN TOP MILK

An interesting and practical point concerning the use of milk in infant-feeding is discussed by Anderson,[1] who has recently investigated the relative proportion of bacteria in the top or cream layer and in the skim milk and sediment.

As is well known, writers on infant-feeding commonly advocate the use of the top layer—a third, fourth or fifth—after the milk has stood for several hours whereby different percentages of fat may be obtained, depending on the length of time the milk has stood. Now Anderson by bacteriologic methods shows in a series of experiments that the top layer contains from ten to five hundred times as many bacteria per cubic centimeter as the mixed milk. For example, in thirty samples of bottled milk examined the average number of bacteria in gravity raised cream was 69,211,000 and in the lower layer 4,360,000 per cubic centimeter. A similar but greater difference exists between the bacterial content of centrifugally raised cream and the milk itself.

It is an interesting fact that when milk is centrifuged or allowed to stand the great mass of bacteria rises with the cream particles while a much smaller number is carried down. Anderson has previously shown[2] that when guinea-pigs are inoculated with cream a much higher percentage die of acute infections than when the sediment is used; and it has been shown by Hess[3] that, if tubercle bacilli are present, the cream contains a larger number of these organisms than the skim milk.

These facts point to the greater danger, not only of acute intestinal diseases, but also of tuberculous infections from the use of top milk as compared with whole milk in infant-feeding. Anderson states that this may be the explanation of the fact that often infants do poorly on such preparations and that possibly the bacterial content may be responsible for this, especially in cases of diarrhea, rather than faulty proteid or fat content.

While these facts give grounds for preference for the use of whole milk over top milk when cow's milk must be used, they are a strong additional argument for the use of mother's milk rather than any modification of cow's milk in infant-feeding.

TO INCREASE THE HOURS OF DAYLIGHT

The interesting proposal to advance the time of day one hour in May and change back again in October is receiving much attention in this country. We have already commented[4] on the British bill, which seems likely to pass. We now learn that a similar bill before the Canadian parliament is almost unanimously supported, while France is about to take up the matter, and one American city is in the throes of discussing the adoption of the plan without waiting for the rest of the country. The National Daylight Association, however, is making a serious proposal to secure this change throughout the United States. There is little to be said against the proposal and very much in its favor, and physicians will no doubt do what they can to further the project. It will certainly be an improvement if we can take more of our sleep in darkness and more of our waking hours in daylight.[5]

Be Thankful.—If you have the sense to realize that this is inevitable, unavoidable, and the way of the world, and if you have the sense to talk over, in a friendly way, the first delicate situation that arises, the difficulties will disappear and recurrences may be made impossible. A man of whom you may have heard as the incarnation of unprofessional conduct, and who has been held up as an example of all that is pernicious, may be, in reality, a very good fellow, the victim of petty jealousies, the mark of the arrows of a rival faction, and you may, on acquaintance, find that he loves his wife and is devoted to his children, and that there are people who respect and esteem him. After all, the attitude of mind is the all-important factor in the promotion of concord. When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good. Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instinct and who has a sane outlook in life.—William Osler.

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[1] Jour. Infect. Dis., 1909, vi, 392.

[2] Bull. 41, Hyg. Lab. U. S. P. H. and M.-H. S., 1908, p. 163.

[3] Pediatrics, New York, August, 1908.

[4] The Journal, July 25, 1908, pp. 324 and 328.

[5] This subject is further discussed on page 383 of this issue.

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Election.—The annual meeting of the Crow River Valley and Kandiyohi-Swift Medical Societies was held in Willmar June 9, and the following officers were elected for the Crow River Valley Association: President, Dr. George E. Putney, Paynesville; vice-president, Dr. E. Harold Frost, Willmar; secretary, Dr. James W. Robertson, Litchfield (re-elected); and treasurer, Dr. William E. Chapman, Litchfield (re-elected). For the Kandiyohi-Swift Association, Dr. Hans Johnson, Kerhoven, was elected president; Dr. John C. Jacobs, Willmar, vice-president; Dr. Gustavus A. Newman, New London, secretary (re-elected), and Dr. Berton J. Branton, Willmar, treasurer (re-elected).

Hospital Notes.—Plans are being prepared for a five-story addition to St. Barnabas Hospital, Minneapolis, to cost $60,000. This will increase the accommodation of the institution from 85 to nearly 200. The building will be of concrete construction and fireproof.——The Ladies' Auxiliary of the City and County Hospital Association of Albert Lea realized more than $500 as the result of tag day recently.——The staff of internes at the St. Paul City Hospital has been increased from eight to twelve.——Plans are being prepared for the new Elliott Memorial Hospital at the State University. A gift of $160,000 has been made for the building and is at the disposal of the board.——The new Norwegian Deaconess' Hospital, Minneapolis, erected at a cost of $105,000, is nearly completed.

NEBRASKA

Churches Furnish Hospital.—Furniture for twenty-eight rooms and six wards of the new Clarkson Hospital, Omaha, has been provided by the congregations of the churches of the Episcopal diocese of Nebraska, or by individuals as memorials. The value of these gifts is about $5,000. The hospital has an endowment of $30,000 for free beds.

Tuberculosis Colony.—Plans for the establishment of a tuberculosis colony at Pries Lake and the erection of a tuberculosis sanatorium have been practically brought to a head through the incorporation in Omaha of the Oak Park Sanatorium Company. The company has option on the Pries farm, a thirty-five acre tract. It is intended to erect a modern hospital building to cost $30,000 or more, modeled after the Phipps Sanatorium, Denver. The incorporators are Dr. Albert F. Tyler, Omaha; Dr. E. G. Barnhardt, and Thor Jorgensen.

NEW YORK

Oneida County Against Tuberculosis.—The Young Men's Christian Association of Oneida county has joined the fight against tuberculosis, and asked that the State Charities Aid Association allow its exhibit to be made in Oneida county at some early date.

Juries Can Not Judge Insane.—Dr. Robert E. Lamb, medical superintendent of the Matteawan State Hospital, at a conference of superintendents of state hospitals held in Albany on July 20, favored a reform in the commitment and discharge of persons adjudged to be insane criminals. Dr. Lamb read statistics of 43 cases where the release of patients from Matteawan was asked by habeas corpus proceedings. In 34 cases the patients were discharged and of these 14 found their way back either to prison or hospital; 8 showed signs of mental disturbance, 3 were unable to earn their own living, 2 committed suicide, 6 disappeared from view, and one was partially self-sustaining. Of the 43 patients, 12 were charged with murder in the first degree. In regard to the com-

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Decision Against Physicians.—Dr. Robert W. Campbell, Swanville, is said to have been found guilty and fined $50 and costs for selling drugs without having first secured the necessary license from the state.——In the case of Elizabeth Taugner against Dr. Charles Wirth, St. Paul, in which malpractice and negligence is charged, the jury is said to have brought in a verdict of $2,000 for the plaintiff.

Personal.—Dr. Hannibal H. Kimball, Minneapolis, has gone to Europe.——Dr. William W. Mayo, Rochester, celebrated his ninetieth birthday anniversary, June 1.——Dr. James Hynes, Minneapolis, has taken up his official duties as physician of Hennepin county.——Drs. H. Longstreet Taylor, St. Paul, and Louis B. Wilson, Rochester, have been named as members of the Advisory Committee on Tuberculosis for the state of Minnesota.——Dr. John Jackola, Duluth, has been made assistant to Professor Bier in the Royal Surgical University Clinic, Berlin.

Election.—The annual meeting of the Crow River Valley and Kandiyohi-Swift Medical Societies was held in Willmar June 9, and the following officers were elected for the Crow River Valley Association: President, Dr. George E. Putney, Paynesville; vice-president, Dr. E. Harold Frost, Willmar; secretary, Dr. James W. Robertson, Litchfield (re-elected); and treasurer, Dr. William E. Chapman, Litchfield (re-elected). For the Kandiyohi-Swift Association, Dr. Hans Johnson, Kerhoven, was elected president; Dr. John C. Jacobs, Willmar, vice-president; Dr. Gustavus A. Newman, New London, secretary (re-elected), and Dr. Berton J. Branton, Willmar, treasurer (re-elected).

Hospital Notes.—Plans are being prepared for a five-story addition to St. Barnabas Hospital, Minneapolis, to cost $60,000. This will increase the accommodation of the institution from 85 to nearly 200. The building will be of concrete construction and fireproof.——The Ladies' Auxiliary of the City and County Hospital Association of Albert Lea realized more than $500 as the result of tag day recently.——The staff of internes at the St. Paul City Hospital has been increased from eight to twelve.——Plans are being prepared for the new Elliott Memorial Hospital at the State University. A gift of $160,000 has been made for the building and is at the disposal of the board.——The new Norwegian Deaconess' Hospital, Minneapolis, erected at a cost of $105,000, is nearly completed.

NEBRASKA

Churches Furnish Hospital.—Furniture for twenty-eight rooms and six wards of the new Clarkson Hospital, Omaha, has been provided by the congregations of the churches of the Episcopal diocese of Nebraska, or by individuals as memorials. The value of these gifts is about $5,000. The hospital has an endowment of $30,000 for free beds.

Tuberculosis Colony.—Plans for the establishment of a tuberculosis colony at Pries Lake and the erection of a tuberculosis sanatorium have been practically brought to a head through the incorporation in Omaha of the Oak Park Sanatorium Company. The company has option on the Pries farm, a thirty-five acre tract. It is intended to erect a modern hospital building to cost $30,000 or more, modeled after the Phipps Sanatorium, Denver. The incorporators are Dr. Albert F. Tyler, Omaha; Dr. E. G. Barnhardt, and Thor Jorgensen.

NEW YORK

Oneida County Against Tuberculosis.—The Young Men's Christian Association of Oneida county has joined the fight against tuberculosis, and asked that the State Charities Aid Association allow its exhibit to be made in Oneida county at some early date.

Juries Can Not Judge Insane.—Dr. Robert E. Lamb, medical superintendent of the Matteawan State Hospital, at a conference of superintendents of state hospitals held in Albany on July 20, favored a reform in the commitment and discharge of persons adjudged to be insane criminals. Dr. Lamb read statistics of 43 cases where the release of patients from Matteawan was asked by habeas corpus proceedings. In 34 cases the patients were discharged and of these 14 found their way back either to prison or hospital; 8 showed signs of mental disturbance, 3 were unable to earn their own living, 2 committed suicide, 6 disappeared from view, and one was partially self-sustaining. Of the 43 patients, 12 were charged with murder in the first degree. In regard to the competency of a jury to determine mental disease Dr. Lamb said that to the experience of both law and medicine it appeared little short of farcical.

Buffalo

Personal.—Drs. Harry Mead and Max C. Breuer have gone abroad.——Dr. Robert F. Sheehan has been appointed professor of hygiene at the University of Buffalo to succeed Dr. Henry R. Hopkins, who has been appointed emeritus professor of hygiene.——Dr. Herbert Hill has resigned as professor of chemistry, toxicology and physics.

Work of the Erie County Hospital for 1908.—The medical staff of Erie County Hospital, in a communication to the board of supervisors, states that the average population of the hospital for the year 1908 was 406, and the highest population for any month during the year was 433, in March. "Under proper conditions the institution can care for 350 patients, but by crowding beds in the corridors and sleeping 20 more in an annex of the almshouse building, the surplus has been taken in." For the six months of the present year the average population has been 434, while March shows an average of 472.

New York City

Medical School to Be Remodeled.—Plans have been filed for remodeling the two buildings of the New York University and the Bellevue Medical schools.

Personal.—Drs. Charles L. and Orlando S. Ritch, Brooklyn, have been added to the list of the staff of the State Department of Health.——Dr. and Mrs. John E. L. Davis and Dr. and Mrs. Edward E. Hicks have sailed for Europe.

Funds to Equip Hospital.—The deficiency bill passed by the House of Representatives carries an appropriation of $20,000 to equip the contagious disease hospital at the Ellis Island immigration station.——The Babies' Hospital announces the completion of the fund of $100,000 to erect an addition to the present building. This addition, besides other features, will provide a special ward for the care of prematurely born infants, and a roof garden for tuberculosis and acute intestinal diseases.

Another Ferryboat Becomes a Hospital.—The old ferryboat Susquehanna has been remodeled into a floating hospital and fifty consumptives have been moved on board. Funds were provided for this enterprise by the Brooklyn Bureau of Charities and Miss Mary Harriman.

Congestion of Population.—A conference on congestion and city planning in connection with an exhibit was in progress for about five days at 178 Park Row, under the auspices of the Committee on Congestion of Population in New York. The object of the exhibition was to show that Italians could not live decently on small wages in New York City. Suggestions as to where they might move and better their conditions were dwelt on by the speakers.

Report on Tuberculosis Exhibit.—The Committee on the Prevention of Tuberculosis of the New York Charity Organization Society announces that the fund available for conducting the international tuberculosis exhibition, held from Nov. 30, 1908, to Jan. 17, 1909, amounted to $35,278, of which $23,003 represented contributions. The Russell Sage Foundation made two bequests, one of $10,000 and one of $1,500. The total attendance at the exhibition was 753,927, a daily average of 15,386. The meetings held during the exhibition were addressed by 191 different speakers and were attended by 42,623 persons.

PENNSYLVANIA

Asylum Contracts Awarded.—At a meeting of the State Homeopathic Hospital Commission, held in Allentown, July 20, the contract to continue construction to the extent of $338,600 on the Allentown Insane Asylum was awarded. Three wards, two chapels and three corridors will be built, but this will not finish the institution. For its completion the commission obtained an appropriation of $875,000 from the last legislature, but the governor was forced to cut it to $400,000.——The contract for the construction of the State Hospital for the Criminal Insane, Fairview, has been awarded for $76,500. The cornerstone of the building was laid July 23.

Philadelphia

Nurses' Registration Board Officers.—Dr. William S. Higbee has been elected president of the newly appointed State Board of Examiners for the Registration of Nurses; Miss Roberta M. West, of Erie, vice-president, and Dr. Albert Blackburn, secretary-treasurer. Until June 1, 1910, all persons having qualifications under the act need not be examined for registration.

Tuberculosis Instruction in the Public Schools.—With the opening of the public school year this fall the Pennsylvania Society for the Prevention of Tuberculosis will begin a school campaign against the spread of consumption. Tuberculosis exhibits will be placed in all the grammar and secondary schools and lectures will be delivered to the pupils by physicians on the methods to be employed to eradicate and prevent the spread of the disease. In addition the society hopes to use the school as a neighborhood center and thus reach the homes represented at each school.

SOUTH DAKOTA

Assaulted Because of Quarantine.—Dr. A. O. Fasser, Vale, following an argument regarding the quarantine of a case of scarlet fever, was assaulted and seriously injured. For a time his life was despaired of, but he is now believed to be convalescent.

TENNESSEE

College Incorporated.—The College of Physicians and Surgeons of Memphis has been incorporated by Drs. Heber Jones, Kirkwood McKinney, C. H. Raine, E. Michel Holder, J. Augustus Crisler, Maximillian Goltman, George G. Buford and William Krauss. Application to amend the charter of the College of Physicians and Surgeons was filed in Memphis June 11. It is sought to change the name of the organization and to increase the capital stock from $10,000 to $50,000.

State Board Officers Re-elected.—At the annual meeting of the State Board of Medical Examiners in Nashville, the following officers were re-elected: Dr. Eugene E. Hunter, Elizabethton, president; Dr. William H. Halbert, Nashville, vice-president; and Dr. Charles A. Abernathy, Pulaski, secretary-treasurer. Dr. Frank S. Raymond, Memphis, has been reappointed a member of the State Board of Medical Examiners. Dr. Thomas E. Abernathy, Chattanooga, has been reappointed a member of the State Board of Health.

Society Meetings.—The West Tennessee Medical and Surgical Association, at its annual convention held in Jackson, elected the following officers: President, Dr. Frank James, Memphis; vice-president, Dr. David A. Walker, Trenton; and secretary-treasurer, Dr. Isaac A. McSwain, Paris.——The Medical Association of McNairy and West Hardin counties was reorganized June 7, and the following officers were elected: Dr. W. H. Hodges, McNairy, president; James L. Smith, Selmer, vice-president; Dr. W. T. Bell, Selmer, secretary; and Dr. John R. Smith, treasurer.

Faculties Combined.—Practically all of the details of the merger of the medical departments of the University of Nashville and University of Tennessee were agreed on at a meeting held July 20. Dr. Robert O. Tucker was elected dean and Mr. E. F. Turner, registrar. A committee composed of Drs. Robert O. Tucker, William D. Haggard, Charles Brower, and Joseph P. Keller reported the assignment of members of faculty, and Drs. Charles Brower, Robert O. Tucker and William D. Haggard were appointed committee to take charge of the erection of a new hospital. The following is the assignment of members of the faculty: Dr. William E. McCampbell, professor of theory and practice of medicine and clinical medicine; Dr. Hazel Padgett, professor of nervous and mental diseases and clinical medicine; Dr. Clinton E. Brush, professor of principles of medicine and clinical medicine; Dr. William A. Oughterson, professor of physical diagnosis and clinical medicine; Dr. Hilliard Wood, professor of diseases of eye, ear, nose and throat; Dr. Charles Brower, professor of surgery and clinical surgery; Dr. Perry Bromberg, professor of principles of surgery and genitourinary surgery; Dr. Robert Caldwell, professor of practical and operative surgery; Dr. Thomas G. Pollard, professor of principles of surgery and venereal diseases; Dr. Robert O. Tucker, professor of obstetrics and midwifery; Dr. George Trawick, professor of obstetrics and demonstrator of midwifery; Dr. William D. Haggard, professor of abdominal surgery, gynecology and clinical surgery; Dr. Charles N. Cowden, professor of gynecology; Dr. Holland N. Tigert, professor of gynecology; Dr. Alberto Hudson, professor of anatomy; Dr. E. M. Sanders, professor of anatomy and demonstrator of surgical laboratory; Dr. A. L. Sharber, professor of surgical and visceral anatomy; Dr. Joseph P. Keller, professor of physiology and demonstrator of physiologic laboratory; Dr. Daniel B. Blake, professor of materia medica and therapeutics; Dr. Thomas F. Dunn, professor of materia medica; Drs. W. E. Hibbett and Samuel M. Bloomstein, professors of diseases of children; Dr. W. Frank Glenn, special lecturer on syphilology; Dr. J. I. D. Hinds, professor of chemistry; Dr. James S. Ward, professor of chemistry and demonstrator of chemical laboratory; Dr. Newton S. Evans, professor of pathology and demonstrator of microscopic, bacteriologic and pathologic laboratory; Dr. Charles G. Griffin, assistant demonstrator; Judge Bonnor, professor of medical jurisprudence; Dr. J F. Gallagher, demonstrator of anatomy; Drs. Mason P. Guill, John M. Lee, B. E. Britt and W. F. Fessey, assistant demonstrators of anatomy; Drs. J. W. Bauman, H. T. Brooks, C. W. Brown, N. B. Parrish, R. L. Dozier, J. P. Schell, P. G. Morrissey, E. C. Demoss and N. B. White, clinical assistants.

WEST VIRGINIA

Personal.—Dr. William H. McLain has been reappointed health officer of Wheeling.——Dr. Abel H. Thayer, Grafton, was overcome by heat in his office July 1, but is reported convalescent.——Drs. Edgar B. Plant and John J. Allen, Wheeling, have been appointed coroner's physicians of Ohio county in place of Drs. Edward L. Armbrecht and Joseph R. Caldwell, whose terms have expired.

Anti-Tuberculosis League.—The directors of the Anti-Tuberculosis League of Wheeling at its recent meeting elected Dr. Harriet B. Jones, president, and Dr. Eugenius A. H. Hildreth a member of the executive committee.——Dr. Fleming Howell, Clarksburg, has been elected president of the Anti-Tuberculosis League of Harrison County, and Drs. Charles W. Haltermen, Thomas M. Hood and Selma M. Mason have been made a committee on clinics.

State Board Appointments.—The following members of the State Board of Health have been appointed by the governor: First district, Dr. Charles W. Halterman, Clarksburg, vice Dr. David P. Morgan; Second district, Dr. Luther S. Brock, Morgantown, vice Dr. M. H. Proudfoot, Rowlesburg; Third district, Dr. Martin V. Godby, Peytona, vice Dr. Timothy L. Barber, Charleston; Fourth district, Dr. Alfred N. Frame, Parkersburg, reappointed, and Fifth district, Dr. Robert E. Vickers, Huntington, reappointed.——The State Board of Optometry, organized July 1, at Charleston, has elected Dr. Eugenius A. H. Hildreth, Wheeling, secretary.

GENERAL NEWS AND COMMENT

Hospitals and the Tariff.—We are informed that the provision in the proposed tariff to allow hospitals and municipal laboratories to import, duty free, instruments and apparatus for their own use, has been stricken out by the conference committee.

Tri-State Society Meeting.—At the annual meeting of the Northern Tri-State Medical Society of Ohio, Michigan and Indiana, the following officers were elected: President, Dr. Charles B. De Nancrede, Ann Arbor, Mich.; vice-president, Dr. James A. Duncan, Toledo, Ohio; secretary, Dr. George W. Spohn, Elkhart, Ind. (re-elected); and treasurer, Dr. Joseph A. Weitz, Montpelier, Ohio (re-elected). The next meeting is to be held in December at Fort Wayne, Ind.

Meeting of Sioux Valley Physicians.—The annual meeting of the Sioux Valley Medical Association was held recently in Cherokee, Iowa, and the following officers were elected: President, Dr. Nelson M. Voldeng, Cherokee, Iowa; vice-presidents, Drs. Joseph G. Parsons, Sioux Falls, S. D., and Alfred E. Spaulding, Luverne, Minn.; secretary, Dr. John E. Garver, Sioux City, Iowa, and treasurer, Dr. Samuel A. Brown, Sioux Falls, S. D. The next meeting will be held in Sioux City in January, 1910.

Missouri Valley Meeting.—The annual meeting of the Medical Society of the Missouri Valley will be held at Council Bluffs, Sept. 9 and 10. Dr. Charles B. Hardin, Kansas City, will deliver the presidential address; Dr. Alfred C. Croftan, Chicago, the address on medicine, and Dr. John E. Summers, Omaha, an address on "Cancer a Constitutional Disease. Its Rational Treatment." Dr. Vernon L. Treynor is chairman of the local committee of arrangements, and the secretary, Dr. Charles Wood Fassett, St. Joseph, will send programs and information to all who desire.

Public Health Education Committee.—The new organization of women physicians, authorized by the House of Delegates of the American Medical Association at Atlantic City, to give instructions as to the prevention of disease, has been formed and named the Public Health Education Committee. THE JOURNAL has commented on this editorially. Dr. Rosalie S. Morton, New York City, has been selected chairman of the executive committee; Dr. Sarah R. Adamson Dolley, Rochester, N. Y., honorary chairman; Dr. Evelyn Garrigues, New York City, secretary; and Dr. Emma C. Hackett, New York City, treasurer. The other members of the committee are Drs. Lillian H. South, Bowling Green, Ky.; Laura L. Liebhardt, Denver; Margaret Holliday, Austin, Texas; Sarah C. Buckley, Chicago; Rose Talbott Bullard, Los Angeles; and Annie Lee Hamilton, Boston.

Warns Against Agent.—In a communication to THE JOURNAL, Dr. Herbert L. Alkire, Topeka, Kan., warns physicians against one L. D. Macy, who claims to represent the Imperial Publishing Co., of New York. He states that Macy's method is to call on physicians for the purpose of selling stereopticon views of anatomy at $45.00, with a discount of $3.00 for cash. On writing to the Imperial Publishing Co., Dr. Alkire was informed that Macy had been dismissed from their service and the physician was advised to take steps to get back money paid. Dr. Alkire reports that he and other physicians are making an effort to find Macy and he is desirous of having any members of the profession notify either Otis Hungate, Topeka, Kan., or himself, should Macy be located.

Immigration and Humanity.—The federal authorities are discussing a recent case in which after some delay, the immigration laws were set aside for humanity's sake. It is stated that an alien, injured at Ridgeway, Ont., could not be taken to a hospital at Welland, Ont., because of the rigid Sunday laws in Canada, so he was taken to Buffalo, which was about one hour distant, in order that hemorrhagic pressure on his brain due to a fractured skull might receive surgical attention. The immigration inspector at first refused him admission to the port of Buffalo on the ground that he was an alien and might become a charge on city or state. After some delay, however, and assurance that neither the city or state would be held responsible for the man, he was allowed to enter the port, was taken to the Sisters' Hospital and an operation performed from which he is recovering.

CANADA

New Wing for Hospital.—The Western General Hospital, Toronto, has erected a new wing at a cost of $100,000.

Personal.—Drs. Herbert A. Bruce, David W. McPhedran, W. Henry B. Aikins and G. A. Stirling Ryerson, Toronto, and Drs. Alexander D. Blackader, Thomas G. Roddick, Francis J. Shepherd and Herbert S. Birkett, Montreal, have gone to Europe.——Dr. Joseph N. Roy, Montreal, has received from the French government the order of the Dragon of Annam on account of efficient services rendered four years ago by Dr. Roy in an explosion on a French warship in Cochin China. ——Drs. Harry Meek and Frederick P. Drake, London, have started for Europe.

Maritime Association Meeting.—At the annual meeting of the Maritime Medical Association at Charlottetown, P. E. I., July 14 and 15, the matter of affiliation with the Canadian Medical Association, and the question of reciprocal registration with Great Britain and the Dominion were discussed, the latter being referred to a special committee. Dr. F. Montizambert, Ottawa, director general of public health, delivered an address on tuberculosis, and Lieut.-Col. Carleton Jones, director general of the Army Medical Service, advocated the establishment of a laboratory in connection with the service. The following officers were elected: President, Dr. W. A. Ferguson, Moncton, N. B.; vice-presidents, Drs. J. B. McDonald, Amherst, N. S.; A. G. Ferguson, Dalhousie, N. B.; and Angus A. MacLellan, Summerside, P. E. I.; secretary, Dr. George G. Melvin, St. John, N. B. (re-elected), and treasurer, Dr. George C. Corbet, St. John, N. B.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 17, 1909.

Annual Meeting of the British Medical Association

The seventy-seventh annual meeting of the British Medical Association which is to be held at Belfast, July 23-30, under the presidency of Sir William Whitlaw, professor of materia medica and therapeutics in the University of Belfast, promises to be of unusual interest. The number of sections has been increased to fifteen, a new one, "Hematology and Vaccine Therapy," having been formed. As is most fitting, the man who has led the modern development of vaccine therapy, Sir Almroth Wright, will preside over the section and deliver an address on the retrospect and prospect of this mode of treatment. Ethical questions of great importance will also be discussed. For long the practice of some consultants in seeing privately patients brought to them by the family physician has been considered reprehensible. Some members of the profession go farther and think that consultants should see patients, even those who come to them independently of any physician, only in consultation with one. A committee of the association has reported favorably on the recognition of a special class of practitioners who so confine themselves. They think that by this measure the friction and jealousy which often arises between the two branches of the profession would be prevented and medical men would unite more cordially for the advancement of the honor and interest of the profession. The hospitals committee will present a report recommending that no new medical institution shall be opened without consultation with the local medical profession through some organized body, such as a "division" of the British Medical Association. It is recommended that the association of the local medical profession in the general management of hospitals and other medical charities is desirable, in the interests both of the institution and of the profession.

A Fatal Shampoo

Considerable sensation has been caused by the death of Miss Dalrymple, aged 29, daughter of a baronet, while her hair was being shampooed with tetrachlorid of carbon. The hairdresser said that she explained the dry shampoo process to Miss Dalrymple and told her that the fumes were obnoxious and might make her feel faint. The window was wide open and the electric fan was working. When she commenced to apply the shampoo Miss Dalrymple appeared to collapse and never rallied. The manager of the department gave evidence that the shampoo had been used 30,000 times without complaint, but he had known of one or two cases of fainting. The physician who was called to the deceased lady said that there was plenty of ventilation, but there was an odor of tetrachlorid of carbon in the room. He had previously seen a lady who had been made faint by the shampoo and he suggested that a ventilating fan should be fitted up, which was done at once. Dr. Spilsbury, pathologist to St. Mary's Hospital, made a postmortem examination and found that the deceased was a subject of the status lymphaticus, which would predispose to sudden death and render her unduly susceptible to inhalation of the vapor. He considered the dry shampoo absolutely safe to a healthy person and to an unhealthy person if the vapor were not inhaled. He attached no blame to the hairdressers. The jury returned a verdict of death from misadventure. There is reason to believe that the tetrachlorid of carbon shampoo is not quite so harmless as this evidence indicates. Two years ago a case was recorded in the *Lancet* in which a lady had her hair shampooed with the tetrachlorid in a bathroom with the window slightly open. She leant over a basin and the hairdresser poured the liquid over her head. She became unconscious and of a bad color and vomited several times. An important point, which does not seem to have been investigated at the inquest, is the *position of the head. If the head is held down over a basin,* as in the last case, much more of the drug is inhaled and danger of poisoning is increased. The head ought to be held backward. Formerly petrol was used for the dry shampoo in London, but in consequence of its inflammability a fatal case of burning occurred and its use is now forbidden by law. Then tetrachlorid of carbon took its place. This evidently is the first fatality.

Sanitation in the West Indies

At the request of the government of the West Indies for the services of an expert to advise on the steps which should be taken to cope with the present outbreak of yellow fever and prevent its recurrence Sir Rubert Boyce of the Liverpool School of Tropical Medicine visited Barbados. He found that the epidemic was of small dimensions but scattered all over the island. The local health authorities promulgated wise anti-mosquito measures. But few of the houses of the poor had a water supply laid on; numerous receptacles, chiefly barrels, were used for storing water and a large proportion of these were infected with stegomyia larvæ. As a result the *Stegomyia callopus* is the common house mosquito of Barbados and is still abundant, i. e., can be found in 11 per cent. of the houses. Sir Rubert thinks that it must be got rid of before the island can be considered secure. The water supply of the island is on the whole very good, but there are a few localities in which the stand-pipes are few and far between. Sir Rubert recommends increasing the supply as soon as possible. In the majority of the West Indian colonies it is now a punishable offense to harbor mosquito larvæ on the premises, but Barbados has lagged behind the other colonies.

Relation of Cancer to Chronic Inflammation

In the seventh report of the Cancer Research Laboratories of the Middlesex Hospital, Dr. Victor Bonney has published a most interesting investigation on this subject. Two views have been held as to the cellular infiltration always found in the connective tissue adjacent to primary carcinoma. One school holds that this inflammatory exudate is due to the irritant action of the carcinoma cells; the other that it is a phase of chronic inflammation which paves the way for the malignant proliferation. Dr. Bonney finds in pre-cancerous conditions, such as leucoplakia of the tongue or vulva, the same infiltration of the connective tissue. It is characterized by infiltration of the sub-epithelial connective tissue by lymphocytes and plasma cells in abundance and destruction of the normal elastic tissue. Into the de-elasticized and cellular layer descend the epithelial downgrowths which show the commencement of malignancy. Thus the changes in the sub-epithelial tissues are precedent to, and not a consequence of malignancy.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 15, 1909.

Epidemic of Typhoid Fever at Saint Brieuc

Since June 12 there has been at Saint Brieuc, capitol of the Department of the Cotes-du-Nord, on the English Channel, an epidemic of typhoid fever, which is now at its maximum. There are in the hospital 263 patients (99 soldiers) and 272 being cared for at their homes. An official complaint has been lodged against the civil physicians for not having made the required obligatory declaration of the presence of the disease. Only six declarations had been made when there were hundreds of cases in the city. After a careful official investigation it appears that, during the first ten or twelve days of the epidemic, the declarations were not made by the physicians, not on account of unwillingness, but on account of uncertainty of diagnosis. The mayor called the physicians together in the town hall on June 20, but opinions were contradictory. Some suggested grip, others dengue, others cerebrospinal meningitis, others gastric disease. The hypothesis of typhoid fever was rejected. It was only on June 25 that Dr. Vaillard, inspector general of the service of military health, confirmed the diagnosis of Dr. Térot, physician of the medical hospital, who had recognized typhoid fever. The epidemic appears to be due to the pollution of one of the springs which supply drinking water; an abundant rain fall had washed down fecal matter from rubbish-heaps and carried the bacilli into the valley in which the spring arises. The epidemic is confined to Saint Brieuc and no new case has been declared on the Breton coast.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, July 14, 1909.

Mortality in German Navy

The death rate in our navy has diminished from year to year; in 1904-5 the mortality was 2.8 per thousand; on the other hand, at the same time the death rate in the British navy was 3.9, in the American 6.48, in the Austrian 3.2. In 1906-7 it was only 2.36 per thousand; of 45,776 sailors only 108 died; 60 from disease, 25 by accident and 23 by suicide.

The Nutrition of School Children

At a recent conference of the central committee of the charities association (*Zentralstelle für Volkswohlfahrt*) Professor Rubner, at present our professor of physiology (formerly of hygiene), delivered a very interesting address on the nutritive condition of the children in public schools. The importance which a sufficient nutrition of public school children has for the further sanitary development of a large part of our population is evident. Rubner very properly claims that the lack in the nutrition of the pupils gives at the same time an insight into the defects in nutrition of the entire people and the effort to remove it involves as an essential factor the improvement of the entire popular dietary.

From an investigation by the central committee it is established that in winter as well as in summer from 0.6 to 1 per cent. of the children of the public schools come to school without any breakfast and 3.5 per cent. in spite of the numerous arrangements for feeding children receive at noon only a scanty cold lunch. A part of the children get a warm meal at least in the evening, but tens of thousands get nothing warm to eat either at noon or at evening and many thousands must go to bed hungry. Arrangements for feeding poor school children have been made by several charitable bodies, but many of these provide simply places where the children may eat without considering that in families whose parents are engaged in industry, the children are not looked after during the period of the day's work but are on the streets and so are exposed to danger. Children's shelters with arrangements for meals are for this reason much more suitable as they accomplish more in the way of education. In these institutions for the most part, some contribution from the parents is required; even in the English law for feeding school children the cooperation of the parents is pointed out as especially desirable. The activity of these shelters should not be limited simply to the months of school but should extend through the vacation.

The directions which Rubner gives for the proper nutrition of children of school age are as follows: Besides the three ordinary meals a second breakfast and an evening lunch should be provided. Milk is to be preferred; alcoholics should be unconditionally forbidden and the use of coffee and tea should be limited; breakfast and dinner should be warm meals, supper can be alternately warm and cold. For children of an average weight of 24 kg. (50 pounds) food having a nutritional value of 1,500 calories is sufficient, that is, about 64 gm. (2 ounces) of albumin, 50 gm. (1⅔ ounces) of fat and 185 gm. (6½ ounces) of carbohydrates should be given. Of this amount one-fifth should be taken with the first and second breakfasts, one-half at dinner and lunch and the rest at supper. The technical side of the feeding of school children should be further developed by a thorough elaboration of the data so far furnished by experience in feeding pupils, as to the cost, the rules for feeding, nutritional value, checking the results by weighing the children, etc.

For the improvement of the conditions of nutrition in the families of workmen having many children the following suggestions are made: 1. Contributions for education or for nourishment on the part of the community on the basis of a physiologically justified minimum standard of nutrition. 2. Increase of the sick benefit for the fathers of families to a full day's wages in money or provisions. 3. Introduction of family insurance in all local industrial and miners' benefit societies with uniform distribution of the burdens thus arising on all members of the societies and the employers of labor. 4. Establishment of organizations for home and childbed nursing on the part of the community and of the Krankenkassen with the assistance of the invalid insurance associations. 5. Establishment of diet kitchens by cities and private organizations. 6. A cheap distribution of provisions from the municipal markets to families with many children who need assistance. 7. Especial arrangements by the communes and insurance organizations for the care and prevention of undernutrition of children during lack of employment.

Death Certificates in Germany

Certifying to a death is not uniformly regulated in Germany. While in many states and cities interment of a corpse is only permitted when the death has been established and certified to by a physician, in other places this certification may be made by laymen appointed for the purpose and in many other places such a certification is not necessary. Professor Schwalbe in his *Deutsche medicinische Wochenschrift* has made a comprehensive report on the present status of the obligatory death certificate. In 1900 the German medical association (*Aerztetag*) passed a resolution that the obligatory death certificate was necessary in the interest of philanthropy and should be given only by physicians licensed in Germany. So far it has only been provided that in case of diseases dangerous to the community, such as leprosy, cholera, typhus, yellow fever, plague and smallpox the authorities in districts in which they are prevalent or which are threatened by them, may order that every corpse is to be submitted to an official inspection by a physician before permission for burial is given.

In Bavaria, Würtemberg, Saxony, Baden, Hesse, Saxe-Weimar, Brunswick, Saxe-Meiningen, Coberg-Gotha, Schaumburg-Lippe, Lübeck, Bremen, Hamburg a death certificate is obligatory, but is furnished by laymen as well as by physicians. In Prussia a medical death certificate is required by police ordinance in a number of large and middle size cities. In some districts the certification is also permitted to laymen. In most parts of the kingdom there exists no obligatory requirement.

In spite of the fact that the Prussian government has frequently urged the introduction of inspection after death and has referred to its importance its extension has been very slow. As the most important tasks of the postmortem inspection may be mentioned the determination of the question whether the death is real or apparent, the furnishing of the cause of death for statistical purposes, the discovery of infectious diseases and of crime. The difficulties of a general obligatory introduction of this measure are the cost, since the poorer people are not in position or willing to pay the physician for an inspection of the dead body and the country communities are very often not in position to carry it out on account of insufficient funds. The assistance of country communities by the resources of the state especially meets the opposition of the conservatives who in general are not inclined to devote much of the state funds to hygienic purposes and to give to physicians much liberty in the correction of sanitary abuses which naturally are much greater in the country than in the cities. Schwalbe calls attention in this connection to the characteristic circumstance that the imperial law for the control of animal pestilence was passed in 1880 and that applying to human epidemics not until 1900, twenty years later.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 11, 1909.

The Vacant Ophthalmology Professorship

The vacancy caused by the death of Dr. I. Schnabel, professor of ophthalmology, seems to create much difficulty. Sometimes a vacant seat at the faculty is left without an occupant for longer than a term, if negotiations have to be conducted with eminent men, who name their terms. But in this case the real reason of the long delay is a difference of opinion between the body of professors (*Professorencollegium*) and the ministry of education. The professors have recommended the appointment of Professor Hess, the director of the eye clinic at Würzburg, who has a high reputation. The ministry, however, is reluctant to call another man hailing from abroad, as there are several German professors already in Vienna. Medical and scientific circles are very anxious that such narrow-minded patriotism shall not overrule scientific and pedagogic requirements. Lately Austria has given a large number of scientists to Germany without arousing protest there, as in Germany only the achievements and scientific importance of the appointees are considered. On the other hand it has happened several times that a physician asked to take over a clinic here had to refuse on account of the unsatisfactory condition of the institute. We are fortunate if a man of the quality of Hess can be induced to take over the old clinic of Schnabel, which can not be compared with his Würzburg eye clinic as regards equipment. The students themselves want a competent teacher and have suffered by not having had a definite program of instruction during the last four months.

The Vienna Poliklinik

The last report for the Vienna Poliklinik, the only hospital in Vienna wholly supported by private contributions, has recently been published. The institute has a hospital with altogether 100 beds, but contains also out-patient departments for all branches of medicine; the number of beds is much too small. The professors and directors of the departments are mostly extraordinary professors of the Vienna University. The number of out-patients last year was 71,987, and the in-patients numbered 2,728. The average stay of patients in the hospital was twenty days. The number of larger operations performed was 1,191. In 1908 a large number of classes for students and postgraduate lectures in German, English and French were held. There were 490 students, among them 140 English and American physicians. The teaching staff of the Poliklinik has suffered severe loss by the deaths of Professor Spiegler (dermatology) and Frühwald (pediatrics). A movement has been initiated to collect funds necessary for the erection of a completely new and up-to-date hospital with another 120 beds, so that hereafter the Poliklinik will be in reality a first-class hospital.

The Cholera Danger

The new outbreak of cholera in Petersburg and Kief and the intimate relations, especially on the frontier, between our country and Russia (the main route from Europe to Russia runs through Austria) have caused the issue of stringent regulations to guard against cholera and a strict quarantine is now imposed on all persons arriving here from Russia. The epidemic has been raging in Russia ever since last year, but it had been kept out from Austria. All importation of leather goods, vegetables, clothes, grain has been stopped on the frontier. Special attention has to be paid to Russian visitors to Karlsbad and other health-resorts.

Clean Your Brakes.—Many a motorist who has complained that the brake linings of his car wear out quickly could prolong the usefulness of these linings by flushing out the brakes when he comes home from a run through the mud. It is impossible to keep grit from accumulating between the braking surfaces, and a little water used now and then will do much to giving you good brakes all the year around.—*The Cooperator.*

Pharmacology

The Harmful Effects of Acetanilid, Antipyrin, and Acetphenetidin

The United States Department of Agriculture Bulletin[1] No. 126, issued July 3, 1909, and which was commented on editorially last week, sets forth the results of an investigation conducted by the Bureau of Chemistry with regard to the harmful effects of acetanilid, antipyrin and acetphenetidin. During recent years the use of these remedies and preparations containing them by the people at large, without the supervision of the physician, has increased rapidly and investigation has shown that coincidently there has been a marked increase in the number of cases of poisoning reported, in the number of fatalities, and in the number of instances of habitual use.

Since the passage of the Food and Drugs Act, June 30, 1906, the attention of the Department of Agriculture has been directed to this subject, particularly in connection with the branding of drug products containing one or more of these agents, and an attempt has been made to obtain full and reliable data with regard to their poisonous qualities with the object of furnishing information to the public which would enable them to understand that these remedies should be employed with caution in the absence of reliable medical advice.

The investigation was conducted along two lines: First, an inquiry addressed to medical practitioners in the United States with regard to their personal experience with these drugs; and, second, the study of the cases of poisoning recorded in medical literature. Nearly a thousand letters, each containing eighteen questions, were addressed by the department to physicians throughout the country, the object being to secure information which would represent as closely as possible the conditions existing among the people at large so far as the harmful effects of the drugs in question are concerned. Four hundred replies were received.

The information obtained with regard to the number of instances quoted in medical literature in which poisoning, death, or habitual use has been known to result from the administration of acetanilid, antipyrin, and acetphenetidin is set forth in Section A of the accompanying table. The information summarized in Section B is based on the data submitted by physicians. Granting that the 525 physicians who did not reply had no cases to report, the question may profitably be asked, if 925 physicians have observed 814 cases of poisoning by these drugs, 28 deaths which are attributed to their use, and 136 instances of habitual use, how many such cases have in all probability been observed by the 125,000 physicians scattered throughout the United States? The summary, C, includes both the number of cases recorded in medical literature and those reported by physicians.

The bulletin contains information with regard to dosage, the extent to which these drugs are employed by physicians, poisoning and habitual use, the nature of the ill effects produced, etc. It also contains references to the recorded cases of poisoning, together with a brief abstract of each case.

POISONING BY ACETANILID, ANTIPYRIN AND PHENACETIN

A.—Cases Recorded in Medical Literature

	Poisoning.	Death.	Habitual Use.
Acetanilid	297	13	32
Antipyrin	488	10	..
Acetphenetidin	70	3	1
Total	855	26	33

B.—Data Submitted by Physicians

	Poisoning.	Death.	Habitual Use.
Acetanilid	614	16	112
Antipyrin	105	5	7
Acetphenetidin	95	7	17
Total	814	28	136

C.—Total Number of Cases

	Poisoning.	Death.	Habitual Use.
Acetanilid	911	29	144
Antipyrin	593	15	7
Acetphenetidin	165	10	18
Total	1,169	54	169

Correspondence

The Need of a Section on Physical Forces in Medicine and Surgery

To the Editor:—The growth of specialism in medical study and practice is justly regarded as one of the most important elements in the recent progress of civilization, even though it be attended by certain disadvantages, which are more or less inherent. The Association, in its re-organized and vigorous life, has fully recognized the principle of this fact by the establishment of many sections. Yet, that all has not been done in this direction that should be done is evidenced by the present position at the annual meetings of the great subject of the use of the physical forces in medicine and surgery.

The member and visitor are confronted at these meetings by the singular fact that a large and flourishing exhibit of physical apparatus and instruments is presented to his view, under the auspices of the Association in its Commercial Exhibit, without opportunity to learn or discuss their value or relative merits in the scientific meetings of the body. Since he is already more or less interested in the subject, he buys apparatus, and, so far as the Association's opportunities to instruct him are concerned, proceeds to employ them according to directions of the salesmen, without that mutual interchange of information so valuable in a special line of work. The result, if not quackery, is a loss of interest in methods of possible value, and much misinformation.

The Association should lead in bringing these methods under scientific rules, and should offer opportunities for intelligent discussion of their problems by its thousands of members, both general practitioners and specialists, who employ them in their daily practice. The British Medical Association has such a section on "electrotherapeutics;" but this designation is unnecessarily narrow, as the work should include roentgenology, hydrotherapy, phototherapy, diagnostic illumination, etc., as well as electrotherapeutics. The best title would probably be that of "Section on the Physical Forces in Medicine and Surgery."

Such a section can be established by the granting of a petition to that effect by the House of Delegates at St. Louis, and I believe that the petition will be granted if a sufficient number of members join in it. The Section on Obstetrics and Gynecology passed a favorable resolution at the Atlantic City meeting, but it was then too late for the matter to be taken up in the House of Delegates.

The purpose of this letter is to ask all members desirous of joining in the proceedings of such a section to write to me to that effect. The letter should state that the writer not only wishes to register in such a section, but will support it actively by attending its sessions. On its receipt by me the name will be added to the list of those desiring to join in this petition. G. Betton Massey, Philadelphia.

1831 Chestnut Street.

International Medical Congress

To the Editor:—Just before sailing for Europe Dr. J. H. Musser, president of the American committee, received this communication from the general secretary of the Congress at Budapest:

Budapest, Hungary.

My Very Dear Sir:—Perhaps it might be unknown to you that there is in our town a statue to George Washington. It has been raised by our countrymen in the United States, a sign of gratitude to the country where they are enabled to derive their livelihood now.

The statue to George Washington is situated in a nice part of our town park, a place visited by every tourist. It might possibly be the case that your countrymen would like to visit the statue in a body and in a solemn way.

Should it be so, you would greatly oblige us by communicating us the decision of your countrymen, in order to make it possible for us to put the day and hour of this visit on the program of the Congress festivities, which are to be published in the first number of the *Congress Gazette*.

Emil Grosz, General Secretary.

Dr. Musser referred the letter to me with instructions to ascertain the wishes of those who will attend the Congress, and communicate the same to Dr. Grosz.

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[1] The Harmful Effects of Acetanilid, Antipyrin and Phenacetin, by L. F. Kebler, Ph.C., M.D., chief Division of Drugs, Bureau of Chemistry, with the collaboration of Drs. F. P. Morgan and Philip Rupp, assistant chemists.

I should be pleased to have any suggestions, either as to the time or the character of the ceremonies.

CHAS. WOOD FASSETT.

Hotel Ostend, Atlantic City, N. J.

[COMMENT.—The proposal of Dr. Grosz will doubtless lead to a very pleasant feature of the Congress for the visitors from the United States, of whom there seems to be a large number. Many of these have already sailed, but others will no doubt take up the request of Dr. Musser through Dr. Fassett. From another source we learn that Dr. John A. Witherspoon, Nashville, Tenn., who is on his way to Budapest, has been invited to deliver the address at the Washington statue ceremonies. It is stated that a number of the best hotels in Budapest have practically all their space engaged for the time of the Congress. Just before he sailed Dr. Musser sent word that he had received and distributed the certificates of membership from the Congress authorities to the physicians who had qualified in the United States. We understand that these certificates will secure to the holders reduced rates on the railroads in Europe. Further information can probably be had from the office of Dr. J. H. Musser, 1927 Chestnut street, Philadelphia, or from Dr. Fassett.—ED.]

Paper Napkins in Gynecologic Examinations

To the Editor:—In gynecologic examinations, cleanliness is of greater importance to the patient than exposure. Apropos of the article on the divided sheet by Dr. Curran Pope, published in THE JOURNAL, July 17, I beg to remark that the sheet when tucked about the speculum as suggested succeeds admirably in precluding exposure of the patient, but the procedure is insanitary and abets communicability of infection, unless a clean sheet is provided for each patient and it is doubtful if this is the intention. It is a well known fact that the table or chair of the general practitioner is supplied with a head-rest and sheet, for gynecologic examinations, and that the sheet may be in service too long before renewing; it is doubtful if an equal degree of carelessness is displayed in any other department of office work, in guarding against infection, as in gynecologic examinations.

The less complicated and bulky the sheet the greater the likelihood that proper attention will be directed to cleanliness. An ordinary sheet of printed material or muslin one yard wide and two yards long is sufficient to prevent exposure in any vaginal speculum examination. If, when any style of sheet is used, however, a white paper napkin, folded once to be triangular in shape, is made to encircle the speculum after it is introduced, exposure of the external genitalia is precluded. The sheet need not come in contact with the speculum or surface of the patient and can be used safely for subsequent examinations. A napkin, also, should be used for the pillow or head rest. They are 14 inches square, made of soft material, and are inexpensive.

CHARLES F. SPANGLER, M.D., Kane, Pa.

Localized Sweating

To the Editor:—Apropos of the paper by Drs. Wende and Busch on "Localized Facial Sweating, Following Certain Olfactory Stimuli," (THE JOURNAL, July 17, 1909, p. 207), I recently came across the following abstract in *Dental Cosmos*, 1906, xlviii, p. 249: Darguies (*Rev. de Stomatol.*, Paris, 1905) reports the case of a woman, aged 39, in whom movements of mastication stimulated the sweat glands in the sternomastoid and infraorbital regions, regardless of season and ceasing at the end of the meal, sometimes being so intense as seriously to interfere with the patient's comfort. Another case has been reported, that of a French army officer in whom the sweating was localized in the right parotid region; this was traced to a blow on the mandibular angle of the same side.

This abstract attracted my attention from the fact that I have frequently noticed, *in my* own case, a curious hyperidrosis, infraorbital and extending over the malar prominence, on eating apples. I have mentioned the fact to a number of professional friends, none of whom, however, had ever met with a similar experience.

MURRAY GALT MOTTER, Washington, D. C.

Book Notices

A MANUAL OF OPERATIVE SURGERY. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., Consulting Surgeon to the London Hospital, and Jonathan Hutchinson, F.R.C.S., Surgeon to and Lecturer on Surgery at the London Hospital. Edition 3, in Two Volumes. Vol. 1, Half Morocco. Pp. 775, with 193 engravings and 17 full-page plates. Price, $6.50. Philadelphia: Lea & Febiger, 1909.

The present edition has been completely rewritten by Jonathan Hutchinson and reflects great credit not only on the editor but on the author. Besides the revision of the text, the illustrations have been gone over carefully and many new ones added. A commendable feature in the present edition is the grouping in one chapter of all the operations on the abdomen, including gynecologic, genitourinary and hernia operations.

COMMERCIAL LAW SIMPLIFIED. By Charles C. Simons, of the Detroit Bar. Leather. Pp. 510. Price, $5. Detroit: The Business Man's Publishing Co.

If, as is sometimes stated, physicians are notoriously poor business men, then this work should prove of value to the medical profession. The book is written in non-technical language, the author stating that it is "not for lawyers and does not presuppose on the part of the reader any knowledge of the law or of legal terminology." The work is compiled in question and answer form and contains a particularly complete index. It is well printed and bound in the regulation law sheep binding.

GONORRHEA IN WOMEN. By Palmer Findley, M.D., Professor of Gynecology in College of Medicine of University of Nebraska, Omaha. Cloth. Pp. 112. Price, $2.00. St. Louis: C. V. Mosby Medical Book Co., 1908.

Dr. Findley states in the preface that this monograph is published in the hope of awakening physicians to a greater realization of the supreme importance of the subject of gonorrhea in women. The book commences with a historical sketch of the subject, in which Dr. Findley states that the Jews had a fairly accurate knowledge of the disease, as shown by biblical history; and he goes on to trace the disease through history down to the present time. He then takes up etiology, pathology, course of the infection, methods of diagnosis of gonorrhea in the various parts of the genitourinary tract, the frequency of this disease in women, the relation of gonorrhea to social economy, the various methods of prophylaxis and treatment, and then takes up the systemic gonorrheal infections, including gonorrheal septicemia and pyemia, endocarditis and arthritis. The book ends with a comprehensive bibliography.

DIETETICS FOR NURSES. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the College of Physicians and Surgeons, Baltimore, and John Ruräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Edition 2. Cloth. Pp. 395. Price, $1.50. Philadelphia: W. B. Saunders Co., 1909.

This edition differs little from the first one. The article on milk has been rewritten and a chapter has been added on simple methods of detection of food adulterations and preservatives. The recipes are good and practical.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DOMESTIC FOWLS AND TUBERCULOSIS

To the Editor:—Kindly answer the following questions: 1. Has it been proved that barn-yard fowls fed on human tuberculous sputum become tuberculous? 2. Is the tubercle bacillus found in the eggs of such fowls and, if so, is it pathogenic for man? 3. Is the avian tubercle bacillus pathogenic for man? X.

ANSWER.—According to recent researches (Weber and Bofinger, Tuberkulosarbeiten a. d. kais. Ges. Am., 1904), the results of which harmonize with most of the earlier conclusions, fowls are not susceptible to infection by tubercle bacilli of the human and bovine types. They are however, readily susceptible to tubercle bacilli of the avian type which are readily distinguished from human and bovine types. Rabbits and mice are susceptible to infection by avian bacilli and spontaneous infections with this bacillus have been observed in white and gray mice and rats, and it is believed that these animals may play an important rôle in the distribution of avian tuberculosis. As a rule the avian bacilli have little effect when introduced into the bodies of guinea-pigs; when large numbers are introduced the animals may die from intoxication but without the development of a genuine tuberculosis. Avian bacilli have also been found in the caseous mesenteric lymph nodes of a three months' old pig. Recent efforts to convert avian bacilli into human or bovine bacilli have failed; in Weber and Bofinger's experiments the avian bacilli retained their original characteristics after having sojourned for two years in the bodies of susceptible mammals.

In view of what has been stated it would seem then that barnyard fowls fed on human tuberculous sputum do not acquire tuberculosis, neither do there seem to be any cases on record of the tubercle bacillus having been found in their eggs. While it is true that one or two instances have been recorded in which avian tubercle bacilli have been found in the human body, yet there is, so far as we know, no evidence that really warrants the conclusion that it is pathogenic for man.

DETECTION OF TUBERCLE BACILLI IN THE BLOOD

To the Editor:—In the answer to the query regarding Rosenberger's method of detecting tubercle bacilli in the blood (THE JOURNAL, July 10, 1909, p. 132) it is stated that he works with 5 c.c. (80 m.) of blood. Please advise me of Rosenberger's method of obtaining such a large quantity of blood.

T. W. CAUSEY, M.D., Jesup, Ga.

ANSWER.—Dr. Rosenberger secures the blood by puncture and aspiration with a hypodermatic syringe.

TREATMENT OF TRICHINOSIS

To the Editor:—Please give the treatment for trichinosis after the parasite has invaded the muscles. X. Y. Z.

ANSWER.—The treatment is entirely symptomatic: Warm baths and local soothing applications are indicated. Sulphonethylmethanum may be given to promote sleep and in some cases morphin is necessary to relieve pain. Tonics and stimulants may be required later to overcome anemia and emaciation; passive motion and massage will assist in restoring the function of the muscles.

CUMULATIVE EFFECTS OF SUPRARENAL EXTRACT

To the Editor:—What cumulative action is exerted by suprarenal extract? J. RODMAN, Dallas, Tex.

ANSWER.—"Cumulative action" is a somewhat indefinite term. In the sense in which it is ordinarily used, viz., when moderate doses are employed at reasonable intervals for a limited time, there is no evidence that suprarenal extract produces cumulative effects except the arterial degeneration which has been observed after repeated injections in animals. The effect of suprarenal extract or adrenalin on the blood pressure disappears very quickly and it is not probable that cumulative action can be caused by repeated administration. Given by the mouth it does not affect the blood pressure. The dose is from 3 to 5 grains of the dried gland.

The Public Service

Medical Corps of the Navy

Changes for the week ended July 24, 1909:

D. G. Allen, asst.-surgeon, detached from the *Chattanooga* and ordered to the Naval Hospital, Canacao, P. I.

Medical Department of the Army

Memorandum of changes of stations and duties of medical officers for the week ended July 24, 1909:

Morris, Samuel J., capt., ordered to Washington Barracks, D. C., for temporary duty

Maus, Louis M., col., ordered to St. Paul, Minn., for duty as Chief Surgeon, Department of Dakota.

Gibner, Herbert C., capt., granted leave of absence for twenty days.

Davis, William R., capt., granted leave of absence for twenty days.

Ekwurzel, George M.; Buck, Carroll D.; O'Connor, Roderic P.; Heard, George P.; Brooke, Roger, Jr., capts., ordered to report at Manila, P. I., for examination for promotion.

Usher, Francis M. C., major, granted leave of absence for one month.

Ashford, Mahlon; Huber, Edward G.; Bayly, Rozier C.; Leary, Thomas F.; Kerr, Robert W.; Shields, William S., 1st lieuts., relieved from their present duties in time to proceed to San Francisco and sail Sept. 5 for Philippine service.

Waterhouse, Samuel M., major; Lyster, William J. L., major; Murtagh, John A., capt.; Davidson, Wilson T., capt., relieved from duty in the Philippine division; will sail Oct. 15 from Manila, P. I., for San Francisco.

Dean, Elmer A., major, granted leave of absence for ten days.

Hutton, Paul C., capt., ordered to report at Washington, D. C., for examination for promotion.

Harris, Henry S. T., lieut.-col., relieved from duty at Fort Leavenworth, Kan., and ordered to San Francisco for duty as chief surgeon, Department of California.

Edger, Benjamin J., Jr., major, ordered to Fort Meade, S. Dak., for duty.

Robbins, Chandler P., major, ordered to Fort Terry, N. Y., for duty.

Van Kirk, Harry H., 1st lieut., M. R. C., granted leave of absence for fifteen days.

Fisk, Owen C., 1st lieut., M. R. C., ordered to Fort Hamilton, N. Y., for temporary duty.

Betts, Charles A., 1st lieut., M. R. C., relieved from duty at Fort Lawton, Wash., and ordered to San Francisco, to sail Sept. 5 for Philippine service.

McLeod, Harlow C., 1st lieut., M. R. C., honorably discharged from the service of the United States, his services being no longer required.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public-Health and Marine-Hospital Service, during the week ended July 23, 1909:

SMALLPOX—UNITED STATES

Georgia: Macon, July 4-11, 2 cases.

Indiana: Fort Wayne, June 26-July 3, 1 case.

Kentucky: Lexington, July 3-10, 2 cases; Newport, 1 case.

Louisiana: New Orleans, July 3-10, 2 cases.

Michigan: Grand Rapids, June 5-12, 1 case; Kalamazoo, July 3-10, 1 case.

Minnesota: Duluth, July 2-9, 5 cases.

Montana: Butte, June 24-July 1, 5 cases.

Oregon: Portland, May 1-31, 9 cases.

Texas: Fort Worth, June 1-30, 4 cases.

Washington: Spokane, June 26-July 3, 1 case.

Wisconsin: La Crosse, July 3-10, 1 case.

SMALLPOX—FOREIGN

Brazil: Bahia, May 21-June 4, 4 cases, 1 death; Rio de Janeiro, May 23-June 12, 22 cases, 12 deaths.

Canada: Halifax, June 26-July 3, 1 case.

Egypt: Cairo, June 3-10, 2 cases, 5 deaths.

France: Paris, June 19-26, 4 cases.

Great Britain: Liverpool, June 19-26, 2 cases, imported.

India: General, May 28-June 5, 1,986 cases, 1,698 deaths: Bombay, June 8-15, 10 deaths; Calcutta, May 29-June 5, 18 deaths: Madras, June 5-11, 4 deaths; Rangoon, May 29-June 5, 1 death.

Indo-China: Saigon, May 22-29, 1 case, one death.

Italy: June 20-27, 20 cases, 3 deaths.

Mexico: Monterey, June 27-July 1, 9 deaths.

Portugal: Lisbon, June 26-July 3, 7 cases.

Russia: Riga, June 26-July 3, 6 cases; St. Petersburg, June 5-12, 23 cases, 6 deaths.

Siberia: Vladivostock, May 21-28, 1 case.

Spain: Barcelona, June 21-28, 5 deaths.

Straits Settlements: Singapore, May 15-22, 1 case.

Switzerland: Geneva Canton, June 5-12, 1 case.

Tripoli: Tripoli, May 22-June 19, 30 cases, 10 deaths.

YELLOW FEVER

Brazil: Bahia, May 2-June 18, 7 deaths; Manaos, June 12-19, 2 deaths.

Ecuador: Guayaquil, May 28-June 12, 6 deaths.

CHOLERA

India: Bombay, June 8-15, 22 deaths; Calcutta, May 29-June 5, 61 deaths.

Indo-China: Saigon, May 22-29, 3 cases, 2 deaths.

Russia: Archangel, June 26-July 1, 10 cases, 4 deaths; Chmalysk, June 25, 1 case; Cronstadt, June 28-30, 5 cases, 1 death; Estland, 1 case; Pleskov, July 1, 1 death; Riga, 1 case; St. Petersburg, June 25-July 1, 11,581 cases, 203 deaths; St. Petersburg, government, June 25-26, 36 cases, 12 deaths.

Straits Settlements: Singapore, May 15-22, 1 death.

PLAGUE

Brazil: Bahia, May 21-June 4, 4 cases, 3 deaths; Rio de Janeiro, May 23-30, 1 case.

Ohio: Canton, May 22-June 5, 90 cases, 70 deaths.

Ecuador: Guayaquil, May 28-June 12, 8 deaths.

Egypt: June 10-July 1, 81 cases, 25 deaths; Alexandria, June 17, 1 case, 1 death; Port Said, June 15-17, 2 cases, 2 deaths.

India: Bombay, June 8-15, 35 deaths; Calcutta, May 28-June 5, 77 [illegible] deaths.

[illegible] ay 22-29, 1 case, 1 death.

[illegible] 22, 2 cases; Yokahama, June 12-19, 2 cases.

Venezuela: Caracas, June 22, 1 case; June 28, 2 cases.

Marriages

FLETCHER L. BROWN, M.D., Whiteville, N. C., to Miss Maude Phifer of Morganton, N. C., at Spartanburg, S. C., July 15.

HOWARD CAMERON, M.D., Sacramento, Cal., to Miss Alice M. George of Sparks, Nev., at Elk Grove, Cal., July 14.

HUMPHREY B. WILLIAMS, M.D., Honea Path, S. C., to Miss Jennie Williams of Nashville, Tenn., recently.

T. RICHARD PAGANELLI, M.D., Hoboken, N. J., to Miss Grace Beatrice Reardon of Jersey City, April 19.

JOHN H. HOLLIHAN, M.D., New Bedford, Mass., to Miss Edna H. LeFevre, at Govanstown, Md., July 6.

Thurston Gilman Lusk, M.D., to Miss Clementine Tetedoux, both of New York City, July 17.

Charlotte Dodd Stewartson, M.D., and J. Brodie Smith, both of Manchester, N. H., July 14.

John B. Bartram, M.D., Ashland, Ky., to Miss Lillian Maurer of Covington, Ky., July 11.

Spurgeon Floyd Priestley, M.D., to Miss Sophie C. Hausen, both of Stockton, Cal., July 13.

James Henry Turner, M.D., to Miss Bessie Helen Shute, both of Salida, Colo., June 24.

Wenzel Carl Gayler, M.D., to Miss Rosaline Klipstein, both of St. Louis, June 29.

John F. Hawkins, M.D., to Miss Lydia Roessler, both of Baltimore, Md., June 30.

Martin J. Hanna, M.D., Baltimore, Md., to Miss Sarah S. Rust, at Baltimore, July 7.

Ormand E. Hutchins, M.D., to Miss Gene J. Fairfax, both of Warsaw, Ill., July 7.

Carl V. Cole, M.D., to Miss Anna Seely, both of Lake City, Minn., July 14.

Deaths

Joseph Robbins, M.D. Jefferson Medical College, Philadelphia, 1861; a member and officer of the Illinois State Medical Society; once president of the Adams County Medical Society a member of the Tri-State Medical Society; for several years a member of the Quincy Board of Education; from 1901 to 1902 superintendent of the Jacksonville (Ill.) State Hospital; physician and consulting surgeon to Blessing Hospital, Quincy; and president of the medical staff; formerly president of the Quincy Medical Library Association; died in Blessing Hospital, July 19, from cancer, aged 74.

Edwin Holmes Van Deusen, M.D. College of Physicians and Surgeons, New York City, 1851; of Kalamazoo, Mich.; a member of the Michigan State Medical Society; first assistant physician at the New York State Lunatic Asylum, Utica, from 1853 to 1858; superintendent of the Michigan Asylum for the Insane, Kalamazoo from 1859 to 1878; who gave to Kalamazoo its public library; a great benefactor to his city; died at the Interpines Sanitarium, Goshen, N. Y., July 6, aged 79.

Charles Henry Voigt, M.D. University of Pennsylvania, Philadelphia, 1875; a member of the American Medical Association; surgeon for the Allegheny General Hospital since its opening; physician and surgeon to the Wilkinsburg Hospital; died at his home in Allegheny, Pa., July 10, from septicemia due to an operation wound, aged 59.

J. R. Marmaduke Dillon, M.D. Tulane University, New Orleans, 1895; of New Orleans; a member of the American Medical Association; formerly assistant surgeon, U. S. Navy; and house surgeon at the Illinois Central Railroad Hospital, Paducah, Ky.; died suddenly in St. Louis, July 4, from heat prostration, aged 35.

Arthur Earl Beach, M.D. Northwestern University Medical School, Chicago, 1905; a member of the American Medical Association; was found dead in his office in Carroll, Iowa, July 13, from the effects of chloroform, self-administered, with suicidal intent, while despondent on account of ill-health, aged 34.

Jacob B. Casebeer, M.D. Bellevue Hospital Medical College, New York City, 1866; formerly a member of the American Medical Association; a member of the DeKalb County (Ind.) board of U. S. Pension Examining Surgeons, died at his home in Auburn, July 13, from carcinoma of the liver, aged 70.

George Marshall Fox, M.D. Castleton (Vt.) Medical College, 1851; once president of the board of trustees of La Grange, Ill.; from 1864 to 1866, physician of Cook County; died at his home in La Grange, July 14, aged 80.

Junius H. Wattles, Jr., M.D. University Medical College, Kansas City, 1900; of Kansas City, Mo.; formerly president of the Western Veterinary College, Kansas City; died in San Marcos, Texas, June 27, aged 30.

Robert S. Chrisman, M.D. University of Pennsylvania, Philadelphia, 1867; a member of the staff of Pottsville (Pa.) Hospital since its foundation; died at his home July 9, from general debility, aged 67.

Patrick Joseph L. Carberry, M.D. Jefferson Medical College, Philadelphia, 1874; owner of the Hotel Rossmore, Atlantic City, N. J.; died in the Atlantic City Hospital, July 9, from nephritis, aged 60.

Thomas J. Wouldridge, M.D. Medical College of Virginia, Richmond, 1851; a practitioner of Hanover county, Va., for 52 years; died at his home in Richmond, March 5, from senile debility, aged 79.

Samuel Millington, M.D. Eclectic Medical College of the City of New York, 1869; for 47 years a practitioner of Rome, N. Y.; a veteran of the Civil War;; died at his home in Rome, July 13, aged 73.

William I. Edwards, M.D. St. Louis Medical College, 1872; a specialist on diseases of the eye, ear, nose and throat of Nashville, Tenn.; died at his home in that city, July 9, aged 61.

William E. Moore, M.D. College of Physicians and Surgeons, Baltimore, 1881; formerly of Derby, Iowa; died suddenly at his office in Lincoln, Neb., July 8, from endocarditis, aged 57.

M. Augustus Withers, M.D. University of Pennsylvania, Philadelphia, 1852; surgeon in the Army during the Civil War; died at his home in Pottstown, Pa., July 2, aged 79.

William J. Wagner, M.D. John A. Creighton Medical College, Omaha, 1908; died at his home in Hulett, Wyo., July 2, from the effects of accidental poisoning by strychnin, aged 26.

J. Lyman Bulkley, M.D. Albany (N. Y.) Medical College, 1874; of Richmond Hill, Borough of Queens, N. Y.; died at his old home in Sandy Creek, N. Y., July 9, aged 75.

Otis E. Youngquist, M.D. Rush Medical College, Chicago, 1892; a member of the Michigan State Medical Society; died at his home in Escanaba, July 11, aged 40.

Elizabeth Grabe, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1884; died at her home in South Beatrice, Neb., July 10, aged 47.

Edward D. Scott, M.D. Howard University, Washington, D.C., 1895; died at his home in Washington, July 8, from paralysis, aged 52.

William Gregg Ratcliffe, M.D. Toronto School of Medicine, 1899; died at his home in St. Catherines, Ont., July 12, from typhoid fever.

John Wesley Lynn, M.D. University of Georgia, Augusta, 1859; died at his home in Carbon Hill, Ala., June 26.

John B. Huff (license, Ky., 35 years of practice, 1893), died at his home near Herbert, Ky., July 8, aged 73.

John K. Seawell, M.D. Atlanta (Ga.) Medical College, 1861; died at his home in Erastus, Ga., July 7.

Miscellany

Sociology and Medicine

The Conference of Charities and Corrections which held its session at Buffalo, N. Y., recently, was of great interest because of the number of its problems which are so closely linked with those confronting the medical profession —problems in which the physician, nurse, social worker and the philanthropist work jointly for common good. Papers of importance were read bearing on the medical side of sociologic problems, such a paper for instance as "The Health of Immigrants, A Study of Typhoid in Pittsburg," by Douglas C. McMutrie of Pittsburg, in which he stated that there is a perfect ratio in the prevalence of typhoid fever and the increase in immigration. So soon as immigration increases typhoid fever becomes more prevalent. This is due to various reasons, some of which are the lowered resistance of the immigrant, the ignorance on their part in sanitary measures, their indifference to health regulations, possibly due to the fact of their ignorance in reading, their segregation in the slums of large cities, overcrowding and the very poor condition of the water supplies in most large cities. The Rev. Dr. W. S. Friedman of Denver presented an urgent and timely plea against sending consumptives in the last stages to the West. He declared that it was an injustice to the West and a cruelty to the patient. He declared that to send such patients to the West was "sentimentalism run wild, philanthropy perverted, medical malpractice." Every humanitarian impulse urges such patients to remain at home. Their last chance, as hoped for by their friends, becomes their lost chance. The sudden change from sea level to a highland, rarified atmosphere, and the wearing hardships of travel aggravate complications and hasten death.

What the slums of our great cities cost in human lives was graphically brought out by Paul Kellog, director of the Pittsburg Survey, the most detailed investigations ever made into social conditions in any city in the world. Dr. John H. Fulton, of Washington, D. C., presided at a subdivision which came into existence at this meeting, namely a section on social service departments in hospitals and dispensaries. Many physicians, nurses and social workers interested in this newest line of philanthropy met and a committee of three was appointed to draw up a plan of organization. Scores of cases were cited in which improvement in the social conditions and the home surroundings of a hospital patient resulted in his recovery. The social service department also cares for convalescents and aids the diagnostician by seeing that ignorant outside patients get proper treatment and medicine and take them properly.

William Jay Schieffelin of New York, in a paper on "Means of Safeguarding the Sale of Narcotics, Especially Cocain, Opium, Morphin," said: "The requirement of the national Food and Drugs Act that patent medicines must bear on their label the proportion of habit-forming drugs has gone far toward preventing people from ignorantly becoming the victims of the drug habit. There remains now the problem of restricting the sale of habit-forming drugs, especially cocain, to their uses. Cocain is so valuable in surgery that to prohibit its use would cause much suffering. On the other hand at least half of the cocain consumed in this country is used by the victims of the habit. Most of these unfortunates live in questionable districts. . . . The New York commissioners of police have reported that they have already found sixty drug stores that show excessive sales and that the druggists conceal their source of supply by importing from abroad. . . . The suggested remedy is a prohibitive tariff to keep out foreign cocain and an internal revenue tax and license to regulate the cocain made and sold in America. If these measures are adopted the sale of cocain in the United States will be cut in half; the drug habitués will be driven to secure smuggled cocain, which can be identified by the absence of the revenue stamp and the name of the American maker; the abuse of the drug will be checked and the hands of the druggist will be clean."

Dr. H. W. Wiley, in a paper dealing with the subject of foods furnished in public institutions said: "In a recent investigation by the Department of Agriculture, made for the purpose of ascertaining the character of food supplied the inmates of a number of hospitals, asylums for orphans and the insane, almshouses, schools for the blind, deaf and dumb, soldiers' homes, workhouses and prisons, it was found that as a general thing the fare at these institutions is of the plainest kind consistent with necessary food value, and the supplies are generally purchased by the governing bodies, on contract, and with a decided leaning toward economy. As a part of our investigation a number of samples of foods were selected for technical examination. Some of these were found to be very deficient in character, as for illustration—of the total number of coffee samples analyzed, 17 per cent. were found to be of good quality and true to name; the remaining 83 per cent. all contained a varying proportion of immature and dead beans which ranged from 6 per cent. to 29 per cent., and some of the samples contained other impurities such as stems and mineral matter. It is something more than a coincidence that all of the impure samples had been glazed. A sample of dried peas contained weevils and other small insects. One sample of gelatin used in a hospital developed an offensive animal odor on moistening. The dry substance was dusted with wheat starch. A sample of tea, very low grade, was composed of old leaves and contained 13 per cent. of stems. In the case of one institution, we have knowledge that a contractor supplied a lot of over 1,000 pounds of coffee which had been stored near raw hides, and was filthy and utterly unfit for food. A vigilant inspection halted this product before it entered into consumption. At one almshouse we found one grade of coffee supplied to the attendants and a much lower grade to the inmates, as was also the case with butter. From the foregoing, it is perfectly clear that some system of supervision of the dietaries of institutions needs to be developed."

C. F. Langworthy stated that public institutions should have nutrition experts just as public institutions have expert accountants. He objected strenuously to the fixed bill of fares for certain days in each week which is used in so many of the charitable institutions.

The diet of tuberculous patients was discussed by Dr. H. M. King of the Loomis Sanatorium, Liberty, N. Y. He stated that the diet depends on the sex (the male requiring more than the female); the age (the old requiring less than in adult life, 30 years being the age of maximum diet); occupation (laborers requiring for instance more than those of sedentary habits), and that city dwellers require more proteid diet. He does not believe in hyperalimentation in tuberculosis for the reason that in such cases you get digestive disturbances and intestinal toxemia. He said that in tuberculosis a person loses flesh not so much because he is starved as because there is a toxic condition resulting from the disease.

Roy Smith Wallace of New York, spoke on the "Responsibilities and Opportunities of a Health Officer." After showing how great, how important and how vital to the community was the health department of a great city, Mr. Wallace proceeded to criticize what he described as shortcomings of most public health departments. "The work is handicapped by lack of funds and lack of men—capable men who can do more than the perfunctory, routine work of the department; men who are alive to their tremendous opportunities. The trouble is that most health officers are political appointees; they are spoilsmen looking for plums. This is why few men look on the position as an honor to be sought and won by merit. Only by the rarest chance is there a man appointed that lends distinction to the office and even in these instances his subordinates are political appointees. The public health is too vital a matter to be trusted to spoilsmen."

"Milk for Babies" was the subject of a stereopticon lecture delivered by Dr. George W. Goler, superintendent of the department of public health of Rochester, N. Y. Dr. Goler told of the experiment at Rochester of the Municipal Dairy Farm where the milk is obtained under sanitary conditions at a small cost and then delivered to Rochester where the health department maintains milk supply stations in charge of trained nurses and where the mothers from the tenements obtain clean wholesome milk and are taught the proper dietary and care of the infant. By this method Rochester has reduced its mortality of children under one year by one-half as compared with the mortality record of the preceding decade, and it certainly demonstrates that it is a line of endeavor which is certainly worth while.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 3. Sec., Dr. Charles L. Tisdale, Butler Bldg.

GEORGIA: Regular, Capitol Bldg., Atlanta, August 3-4. Sec., Dr. E. R. Anthony, Griffin.

College Merger at Nashville

Word has been received from Dr. Hilliard Wood of Nashville that the University of Tennessee Department of Medicine has united with the University of Nashville Medical Department, the new school thus formed to be known as the Medical Department of the Universities of Nashville and Tennessee. The faculty already selected numbers forty-four. Better equipped laboratories and improved methods of laboratory teaching are contemplated. Additional hospital facilities are already being provided for. It is announced that the new school will be operated according to the requirements of the Association of American Medical Colleges.

Nebraska February and May Reports

We are informed that the Nebraska examination report published in THE JOURNAL, July 17, 1909, was for the examination held February 3-4, 1909, instead of May 25-27, 1909. The following is the report for the examination held at Lincoln, May 25-27, 1909, furnished by the Secretary, Dr. E. J. C. Sward. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 63, of whom 60 passed and 3 failed. Eleven reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Southern California	(1908)	85.8
University of Maryland	(1909)	88.
Hamline University	(1907)	78.7
University of Missouri	(1909)	85.
University Medical College, Kansas City	(1897)	85.
Ensworth Medical College	(1909)	77.5, 78.5, 80, 80.
University of Nebraska,	(1909)	77.8, 81.7, 84.1, 84.2, 85.4, 86.5, 86.8, 87.4, 90.7.
Nebraska College of Medicine,	(1909)	80.6, 81, 81.6, 82, 82.6, 82.7, 83.8, 85.2, 88.
Lincoln Medical College,	(1909)	80.5, 84.7, 85, 85.5, 85.7, 86.5, 86.6, 89.
Creighton Medical College.	(1908) 80.5; (1909)	75, 75.7, 77.6, 78.1, 78.6, 79.2, 79.8, 80.1, 80.1, 81.7, 82.2, 82.2, 82.6, 82.7, 83, 83.5, 83.7, 85, 85.7, 88.4, 88.6, 88.8, 89, 90.

FAILED

College	Year Grad.	Per Cent.
College of Phys. and Surg., Chicago	(1897) 74.5; (1901)	68.8
Ensworth Medical College	(1909)	68.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School, (1905)	(1907)	Iowa;
(1907)		Illinois
Chicago College of Medicine and Surgery	(1909)	Illinois
Jenner Medical College	(1908)	Illinois
Rush Medical College	(1894)	Iowa
Barnes Medical College......(1908) Oklahoma;	(1896)	Iowa
Marion Sims College of Medicine	(1898)	Iowa
Ensworth Medical College	(1908)	Kansas
Eclectic Medical Institute, Cincinnati	(1909)	Kansas

Minnesota June Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at Minneapolis, June 15-18, 1909. Aside from the written examination, practical tests were given in pathology, bacteriology, histology and urinalysis. The number of subjects examined in was 12; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 77, of whom 59 passed and 18 failed. Eleven reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern Univ. Medical School	(1909)	75.1, 76.2, 78.6, 81.2
Harvard Medical School	(1907) 80.6; (1909)	83.8
University of Minnesota, College of Medicine,	(1909)	75.3, 76.9, 77.9, 77.9, 78.1, 79.1, 79.2, 79.2, 79.3, 79.7, 79.8, 80, 80.7, 81.3, 81.3, 81.5, 81.7, 81.9, 82.1, 82.5, 82.7, 82.7, 83, 83.6, 83.9, 84.5, 84.7, 84.9, 85.1, 85.2, 86.9, 87, 87.2, 89.6.
University of Minnesota, Homeopathic Department	(1907)	78.1
Hamline University,	(1908) 77.3; (1909)	75, 75.4, 77.2, 78.4, 78.7, 79.7, 81.9, 84.1, 86.4.
Creighton Medical College	(1908)	82.2
Columbia University, College of Phys. and Surg.	(1909)	81.5
ollege and Hospital, Philada.	(1909)	84.2
lege	(1909)	76.1, 76.7, 79.1, 79.7
Ontario	(1906)	83.4

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1890)	68.6
Northwestern Univ. Med. School	(1908) 72.6; (1909)	71.3
University of Minnesota	(1909)	73.8, 74, 74.2
Hamline University,	(1907) 66.8, 70.4; (1909)	68.9, 69.9, 70.6, 73.1, 73.7.
Barnes Medical College	(1909)	69.8
St. Louis University	(1909)	67.7
Jefferson Medical College	(1909)	65.4, 65.8, 73.1

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1905)	Wisconsin;
(1908)		Illinois
	(1907)	Iowa
(1904)	(1908)	Iowa
(1904) Wisconsin;	(1905)	N. Dakota
of Phys. and Surg.	(1895)	Wisconsin
	(1906)	Michigan
Medico-Chirurgical College, Philadelphia	(1907)	New Jersey
Creighton Medical College	(1909)	Nebraska

Louisiana May Report

Dr. Felix A. LaRue, secretary of the Louisiana State Board o. Medical Examiners, reports the written examination held at New Orleans, May 20-21, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 130, of whom 99 passed and 31 failed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1908) 78.; (1909)	82.4
College of Physicians and Surgeons, Little Rock	(1909)	76.2
Kentucky School of Medicine	(1908)	78.6
Kentucky University	(1904)	84.8
Louisville Medical College,	(1898) 78.4; (1905) 77.2; (1907)	76.6
Louisville and Hospital Medical College	(1908)	75.2
Tulane University of Louisiana,	(1884) 86.8; (1901) 87.8; (1909)	75.2, 76.8, 78.4, 79.6, 79.6, 79.8, 81, 81.2, 81.4, 81.6, 81.6, 81.8, 82, 82.4, 82.4, 83, 83, 83.2, 83.4, 83.8, 84, 84.4, 84.4, 84.4, 85, 85.4, 85.6, 86, 86.2, 86.6, 86.8, 87, 87.2, 87.2, 87.4, 87.6, 87.8, 88, 88.6, 89, 89, 89, 89.2, 89.2, 89.4, 89.6, 89.8, 90, 90, 90.6, 90.8, 90.8, 92, 92.4, 93.2.
Meharry Medical College	(1909)	81.8
College of Physicians and Surgeons, Memphis	(1907)	75.0
Vanderbilt University	(1909)	82.6
University of Nashville,	(1907) 83; (1908) 75.6, 87.8; (1909)	83.2, 90.
University of the South,	(1905) 82.4; (1906) 84.2; (1908)	75.4.
University of Tennessee,	(1905) 77; (1909)	80.4, 83.6, 84.6, 85.6.
Memphis Hospital Medical College,	(1898) 75; (1901) 81.6; (1909)	75, 75, 75, 76.6, 77.2, 77.2, 77.6, 78.6, 79, 79.4, 80, 80.6, 83, 85.4, 85.4.

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1905) 72.2; (1909)	66.6
College of Physicians and Surgeons Little Rock	(1909)	73.2
Medical College of Georgia	(1908)	51.4
Kentucky University	(1904).	70.4
Kentucky School of Medicine	(1906)	54.2
Louisville Medical College	(1906)	58.
Flint Medical College	(1909)	57.6, 66.4
Tulane University of Louisiana	(1909)	72.4
Maryland Medical College	(1903)	72.2
Meharry Medical College,	(1908) 61.2; (1909)	58.8, 59.4, 72, 72.6, 72.8.
Memphis Hospital Medical College,	(1893) 55; (1901) 61.6; (1908) 42.6, 53.6, 71.6; (1909)	34.4, 62, 63, 65.4, 67.6, 71.1.
University of Nashville,	(1872) 59; (1898) 69; (1908)	70.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1900)	Illinois
Rush Medical College	(1905)	Illinois
Flint Medical College	(1902)	Colorado
University of Michigan	(1900)	Michigan
Kansas City Medical College	(1903)	Kansas
Dartmouth Medical School	(1881)	Illinois
University of Pennsylvania	(1884)	Michigan
Memphis Hospital Medical College	(1903)	Texas

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Optometry Bill Defeated in Connecticut

The optometry bill which has been pending in the Connecticut legislature for several months past has been finally disposed of. The Committee on Public Health and Safety in the House, to which the bill was referred, reported unanimously against it. The report of the committee was accepted and the bill rejected about three weeks ago. The next day a motion to reconsider was made and tabled. Last week the motion to reconsider was taken from the table and lost. The next day in the Senate the report of the committee against the bill was accepted and the bill was rejected without a dissenting vote. This apparent unanimity of action on the part of the Connecticut legislature regarding this bill would indicate that the recent wave of optometry legislation, one of the most foolish and pernicious of recent years, has spent its force and that legislators as well as members of the profession are beginning to appreciate the danger of enacting such ill-advised laws.

Newspaper Support of Association Work

The statement has often been made, and not always without good grounds, that it was exceedingly difficult to interest the newspapers of the country, even the most prominent and influential ones, in the efforts of the Association and its various constituent state societies in the direction of public health sanitation. The enormous influence and power of the great city newspapers has been fully recognized. Unfortunately, they have not always appreciated the importance of the activities of the medical profession or else have apparently felt that they were inspired by ulterior motives. A change of sentiment in this direction has been apparent for some time and editorial utterances have not been wanting, showing that the leading newspapers of the country are beginning to appreciate the importance of the work of the Association and to give it the commendation which it deserves.

PHILADELPHIA NORTH AMERICAN

One of the most gratifying evidences of this awakening sentiment is an editorial which appeared in the Philadelphia *North American*, Saturday, June 12, immediately after the Atlantic City session, under the head "'Forward!' The Doctor's Message." While too long to quote verbatim, the following extracts are given:

"A gathering of doctors to discuss matters of interest to themselves a few years ago would have meant nothing at all to the American public. There would have been much wrangling over petty "ethical" disputes, much of quarreling about polysyllabic prescriptions, much grave and dignified folde-rol to convey the impression that modern medicine is a mystery. The deeper is our gratification in summarizing our observation of the proceedings at Atlantic City this week of nearly 4,000 physicians representing about every state and territory in the United States, and many foreign countries, who met to attend the sixtieth annual meeting of the American Medical Association. Our most temperate estimate of the work of those doctors assembled is that it has been not only a distinct gain for public health, a distinct advancement of the profession of healing, but a profit and a progress for public enlightenment, for civic morality and for the civilization of the nation. We have studied every debate, every address, every resolution presented during the Atlantic City meeting. We have failed to detect a single proposal or utterance intended to further the selfish interest of an individual or a clique or any institution or group of institutions or to exalt a narrow doctrine or any theory not universally accepted by scientists. We have been unable to pick out even one suggestion demanding consideration which did not have its inspiration in a broad, beneficent spirit of uplift not for a class or a community alone, but for the whole race. . . .

"There was not a man in that great gathering who had a dollar or an office to gain—many had much to lose—by any pronounced stand on the liquor question. Yet these are some of the messages to their countrymen by those calm scientists:

> Study has shown that alcohol is a death-dealing agent and not the panacea that it is supposed to be.
>
> Americans need stimulants less, perhaps, than any civilized people, for the climate and life, with its changeableness, uncertainty and haste, are stimulants enough without adding more artificial ones. The safer course for the American is to abstain entirely from alcoholic drinks.
>
> Alcohol prescriptions and narcotics of all kinds often start incurable habits.

"There was advocacy that will stir thought throughout the length and breadth of the land for a national department of public health as a means of prolonging life in America with these remarkable suggestions:

> There should be national or federal control and supervision of all streams, navigable rivers, fresh water lakes and dairies throughout the country. This would go far toward stamping out typhoid fever conditions and consumption, for it would mean a cessation of the pollution of all bodies of water and ridding of all dairies of diseased milch and beef cattle.
>
> Less destitution would prevail by carefully enforcing the laws of emigration. A greater amount of happiness would prevail due to a saving of from 25 to 50 per cent. in lessening the death rate of human life, and thus from an economic point of view would result in an extension of the period of life, which would in turn result in a complete evolution of the human race.

"But more impressive to us than all else—more thought-provoking even than the urging of still stronger battling against tuberculosis, bad sanitation, bad food, bad water and every other factor in the creation of disease—was the consistent striking by those doctors at the root and not the fruition of degeneracy, disease and death. Scarcely a speaker failed in the discussion of his topic to delve straight down to care of the child. The thought of all was summarized in the resolutions declaring that supervision of the health of school children is essential for the welfare of the race, and that the education of children in sanitation and the use of preventives, should be made part of the studies.

"These are but running comments on the proceedings of the largest and ablest society of physicians in the western world But examine all that they did in detail and if any act or utterance be found not in harmony with the splendid impulse they gave toward the perfection of preventive medicine, we shall confess an error and an oversight. Yet every doctor who aids in the promotion of hygiene and preventive medicine is reducing disease and thereby lessening the likelihood of large professional profits.

"Try to put a halo about the head of any one of those big, broad men and you will be laughed at for your pains. Call him altruist or philanthropist and you will gain no more thanks than if in your folly you called him quack or charlatan. They are very human, these doctors—else they would not be good doctors. For they know humanity as it is given to no others to know it. Men may lie to their lawyers. To their spiritual counselors they may persist in plausible hypocrisy. But no man may keep up the mask of his soul between him and his doctor. For 'when the body triumphed and the last poor shame departed, these abode our agonies and wiped our sweat away.'

"These are the ones who see humanity in the raw—see man's nature stripped by pain of every garment of falsity and convention. It is not of the great chemist nor the great biologist we speak; only in slight degree of the surgeon or the specialist. But of the practicing physician, who sees all sorts and conditions of men and more nearly than any other fellowman, we say that above all others he would be excusable if he became a selfish, self-centered, hardened cynic.

"And when instead we see a display of such splendid humanitarianism as has been presented by the American Medical Association, we can only avow our belief that in their calling there is some subtle, intangible inspiration, which to a greater or less degree, implants in every true physician a spirit that guides his conduct for the general above his own good—a flash of the supernal light that makes of the world's greatest, 'gods, for they knew the heart of men; men, for they stooped to fame.'"

THE NEW ORLEANS ITEM

Even more interesting, because apparently written on the individual initiative of the editor, without the stimulus of a great medical meeting, is an editorial which appeared in the New Orleans *Item*, June 25, outlining as it does a plan for cooperation between the profession and the public almost identical with that proposed sometime ago and which the Association has been hoping soon to establish. The following paragraphs from the *Item* editorial, which was entitled "Our Medical Friends and Disease," should be widely copied and carefully considered:

"It is remarkable how few physicians understand and practice the art of presenting health topics to the public. The ideal medium for conveying information on preventable diseases in the daily newspaper. Medical societies recognize this stupendous medium for treating suffering humanity by practically authorizing those of its members who show a disposition to communicate with the public on the subject of disease. They leave the great problem involved in the advance of science to discussions conducted in technical terms in their own associations. We do not approach the subject from a commercial viewpoint, but we do know that there is a very widespread interest on the part of all the people on health topics. We feel that thousands of cases of illness would be prevented if there appeared in each newspaper in the country every day a clear and simple discussion of some side or phase of disease prevention and cure. There should be some agency in the United States of America, sufficiently patriotic, sufficiently intelligent to furnish the daily press with well-prepared articles of a public character on health topics. Preferably these articles should come from a committee of the American Medical Association and should bear their stamp. It might come from the Federal Government or an association of the health officers of the various states of the United States, as well as the health officers of the large cities of the United States. The world is waking up to the possibility of the prevention of disease and to the desirability of informing all of the people through newspapers, magazines and periodicals which reach all the people, regarding the best method of living. . . .

"Ask any intelligent physician how much of his practice comes from people having preventable diseases. They will tell you that almost all diseases are preventable. Tuberculosis is an avoidable and preventable disease. Nine-tenths of all the insanity that people have comes from improper forms of living. Smallpox is one of the few diseases that medicine recognizes and takes the proper steps to prevent. Typhoid fever, malaria, dysentery, whooping-cough, pneumonia and a number of other diseases are preventable. There are poisons, pains and aches, shocks, burns and wounds, and hundreds of other troubles that afflict people, and cause unending pain and suffering that can be either avoided or cured by the spread of information and a general knowledge of the remedies for these troubles.

"As we have to live and must read something, and as we all go to school and must study something, why should we not learn about these things that are practical, and educate ourselves and others so that while we are alive we may be as healthy as possible. We should know the effect on the human system of the various foods that we eat, of the various things that we drink, of the tobacco that we smoke, of the hours that we keep. We should know how much sleep we need, and how to get the best result from it. The schools are teaching hygiene and some knowledge of the better care of the body, but the work is not going forward as fast as it might. It is by no means as thorough as it should be, nor is it popularized to the extent that it might be.

"The world is growing better along these lines, but it could grow better at a very much more rapid rate. New Orleans should not need education along these lines as much as other cities. The greatest physician in Louisiana, the greatest man in the practice of medicine in the South, should be chairman of its health board, and around him he should have a staff of physicians consisting of the pick of the specialists in all lines. Ten dollars should be spent for the public health for every dollar that is spent now. . . .

THE LOUISVILLE JOURNAL

As an evidence of public interest not only in the discussion of general questions but in the specific reforms as well, the following editorial on "The Campaign for Sanitation," from the Louisville (Ky.) *Journal*, shows how readily the leading newspapers respond to efforts for better sanitary conditions:

> "The State Board of Health is making a commendable effort to impress on the people of Kentucky the importance of sanitation. The recent visit of Mrs. Caroline Bartlett Crane has done much to arouse popular interest. Dr. J. N. McCormack is now visiting various towns in western Kentucky, and in his lectures is urging city and county officials and local health boards to more active endeavor.
>
> "It is a grievous fact that in many communities there is very little attention paid to these all-important matters. The simplest rules of ventilation and cleanliness are ignored in public buildings and places of assembly. In the majority of the small towns there is no systematic or coordinate plan for the insurance of sanitary conditions, and in some of the larger towns affairs of sanitation are woefully neglected. Even in cities where health boards are active the inspection, often, is less careful than it should be. The simple process of keeping the streets clean seems to be beyond the ability of the average city administration. Water accumulates in gutters and mudholes to remain for days, breeding mosquitoes and malaria. In the long time between cleaning streets are covered with all manner of rubbish that is both unsightly and insanitary. If these conditions prevail in some of the main-traveled thoroughfares, what must be the predicament in some of the alleys —to say nothing of back yards?
>
> "While it is not possible to abolish disease, there is much that could be done, in large towns and in small, that would indubitably have a tendency to improve the health of the dwellers therein. There are ponds that might be drained, weeds that might be cut, plague spots that might be eliminated and nuisances of various kinds that might be abated. Every town has its breeding places for germs, for flies and for mosquitoes. Scientists declare that it is possible for one ordinary housefly to carry thousands of germs. Physicians look on the fly and the mosquito as two of the most powerful agencies for the transmission of disease. Despite these well-known facts, many towns are doing practically nothing toward the eradication of these pests. . . .
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> "Dr. McCormack and other state health officials deserve the highest commendation for the intelligent and continuous efforts they are making toward the improvement of conditions in Kentucky. Results may be slow of attainment, but something has been gained all along the line. With the continuation of a vigorous and well-directed campaign there is much that may be achieved, although there be difficulties, almost innumerable, to overcome."

The enormous power of the daily newspapers as a means of reaching and educating the public can not be overestimated. Intelligent and active cooperation between the organized medical profession and the public press of the United States could do more to save human lives and to prevent unnecessary sickness than could be secured by any other possible agencies. If the medical profession will furnish instruction and if the newspapers will disseminate it, the sanitary regeneration of the country can speedily be brought about.

Society Proceedings

NEW JERSEY STATE MEDICAL SOCIETY

Annual Meeting held at Cape May, June 23-25, 1909

The officers elected were noted in THE JOURNAL, July 10, page 123.

Progress in Medicine

DR. THOMAS H. GRAY, East Orange, delivered the Oration in Medicine, which contained a review of the progress made in medicine during the memory of physicians now in practice. He thought that there should be a national board of medical examiners, just as there is a national pure food law.

Chloroform Anesthesia in Throat Operations

DR. FREDERICK P. C. DEMAREST, Passaic, considered chloroform the best anesthetic to use in adenoid operations on children under 12 years of age, because ether was irritating to the respiratory tract, producing a flow of mucus, which greatly embarrassed the operator. It takes a more skilled anesthetist to administer chloroform than to administer ether. The chloroform must be pure and fresh, not having been opened or exposed to a bright light, and must be given by the drop method.

DISCUSSION

DR. GEORGE EDWARD TUERS, Paterson, thought that the field of chloroform as an anesthetic was large, and admitted that it was being used more and more every day. Compared with other anesthetics, he regarded it as the most pleasant by far, and also the most dangerous; the quickest to anesthetize, and the quickest to kill.

DR. WALTER S. CORNELL, Philadelphia, emphasized the necessity of mixing air with the chloroform. He thought there should be some arrangement of wire-net with gauze over it, or that the finger should be placed under the gauze in such a manner as to admit air.

DR. THEODORE F. LIVENGOOD, Elizabeth, said that less and less is being heard about deaths due to chloroform, because better qualified men administer it. He then described the manner in which the discovery that suspension with the head down and the legs elevated would resuscitate a person dying from the effects of chloroform had been made in carrying some rats by their tails after they had been chloroformed and were apparently dead. He considered chloroform a good anesthetic in cases in which it was practicable to do a rapid operation, but not in those cases in which prolonged periods of anesthesia was necessary.

The Influence of Sleep on Arteriosclerosis

DR. W. W. BEVERIDGE, Asbury Park, said that similar changes to those occurring in the hearts and blood vessels of elderly persons frequently occurred in the young, and were not physiologic, but pathologic. Nutrition probably had something to do with the cause of these derangements. He thought that a more thorough study of the constitution of the cells of the body might lead to greater knowledge regarding the secondary changes produced by this condition. He then referred to the physiologic function of the sleeping state as being one of the most important in the body, having to do with nutrition and the repair of the wear and tear caused by the day's activity. The amount of sleep required was in proportion to the amount of nutrition needed. He believed that the retrograde changes incident to old age might be retarded by a more careful study of the processes that go on in sleep and affect the nutrition of the cells.

DISCUSSION

DR. W. G. SCHAUFFER, Lakewood, did not agree with the view of Dr. Beveridge that sleep, properly made use of, could counteract the degenerative changes in the arterial system and in other organs of the body. He also differed with Dr. Beveridge in the opinion that arteriosclerosis was more or less easily diagnosed. He admitted that some of the methods of treatment now employed caused regeneration of the tissues, but said that others did not. He thought that the fallacy in the paper was the view that sleep gave the food a chance to be absorbed and changed into the elements that built up cells.

Dr. Philip Marvel, Atlantic City, divided the principles emphasized in the paper into the regenerative influence of nutrition on cell life or cell energy and the assumption that sleep is the process that presides over the processes that convert the nutrition or nutritive elements into cell life or energy. He said that no one knew just what sleep was, and therefore could not determine what sleep did. So far as the voluntary forces of the body were concerned, rest was sufficient to restore them. The involuntary forces, however, continued much the same, no matter whether the person was sleeping or waking. He said that no one could tell to what extent any of the individual forces involved in metabolism entered into the reparative or recuperative effect on a cell. The cell was a composite body, which under various influences was made to do different things; and the forces of the body were in some way relative to the unit of the cell. Therefore, it was hard to say that sleep was that force which so controlled the forces of life as to add to the longevity of the average individual.

Dr. Beveridge thought that the fact that we did not know what sleep was did not constitute a good reason for not discussing it. He said, however, that something was known about sleep; and the fact that it occupied one-third of one's lifetime made it important to learn more about it.

President's Address: Recent Advances in Medical and Surgical Work

Dr. David St. John, Hackensack, said that medicine, with surgery, was becoming an exact science; and that while great advances had been made in the diagnosis and cure of some diseases, there were others about which investigators were still in doubt. Among medical methods of diagnosis and treatment recently engaging attention, he mentioned tuberculin therapy, the use of vaccines made from dead typhoid bacilli, the Flexner treatment of cerebrospinal meningitis, the use of extract of leucocytes in the treatment of pneumonia, the treatment of erysipelas with polyvalent serum, the serum treatment of chronic nephritis, the Wassermann seroreaction in syphilis, and the Rogers-Beebe serum for treatment of exophthalmic goiter. The advances in the surgical field, he stated, had been equally promising. Among these he mentioned the successful suturing of wounds of the heart, the starting of the heart's action by rhythmical compressions and by injection of fluids after this action had ceased, the suturing of arteries to veins in transfusion, the new method of treating aneurisms devised by Matas of New Orleans, and the transplantation of parts of the body into a different animal. With these great advances already made, the future, he thought, was full of promise.

Oration in Surgery: Diagnosis of Acute Abdominal Infections

Dr. George Brewer, New York City, limited himself to a consideration of two border-line subjects having largely to do with the differential diagnosis of acute abdominal infections: acute unilateral septic infarction of the kidney, and acute perforation of an intestinal diverticulum.

Of the former, he recognized three clinical types: (1) the severe, which progresses to a fatal ending unless treated by nephrectomy; (2) the intermediary, in which the initial symptoms are severe, but the evidence of grave progressing disease is wanting; and (3) the mild, which requires no operation, and is of surgical interest only because it accounts for cases in which, after an attack of appendicitis, operation reveals no lesion whatever. Acute diverticulitis, he divided into four groups: (1) mild; (2) more severe and progressive; (3) cases in which there has been a rupture of the diverticulum with the formation of a localized abscess, either intraperitoneal or extraperitoneal; (4) cases in which rupture of the diverticulum into the peritoneal cavity has taken place. The symptoms of acute diverticulitis are practically identical with those of acute appendicitis, except that it may occur on the left side of the abdomen.

(To be continued)

AMERICAN ACADEMY OF MEDICINE

Thirty-fourth Annual Meeting, Hotel Dennis, Atlantic City, N. J., June 5-7, 1909

(Continued from page 225)

SYMPOSIUM ON EXCEPTIONAL CHILDREN NOT NEEDING SEGREGATION

Classification of Exceptional Children as a Guide in Determining Segregation

Dr. Maximilian P. E. Groszmann, Plainfield, N. J.: Segregation in its full meaning refers only to those children who have to be taken out of human society altogether, temporarily or permanently. Unsegregated exceptional children may require special schools or special classes in ordinary schools. To give a clearer understanding of the problem of exceptional children I desire to submit a tentative classification and terminology as a working basis:

A. NORMAL CHILDREN.
  1. Typical children.
  2. Pseudo-atypical children.
  3. Atypical children proper.
B. SUBNORMAL CHILDREN.
  1. Defective children.
  2. Children of arrested development.
  3. Children of rudimentary or atavistic development.
C. ABNORMAL CHILDREN.

No classification can differentiate all individuals. It is extremely difficult to determine a normal standard so as to preclude ambiguity. Deviations from the normal standard do *not* invariably imply a corresponding decrease of usefulness for human progress. In one detail or another a different viewpoint may suggest other or additional terms for special types. This classification is intended to be one of children and not of adults. It also does not imply rigidity of types. Those children called pseudoatypical need little or no segregation. Special or ungraded classes in schools will help these. From the special class, however, the pseudoatypical child may be speedily returned to the ordinary classes. Too often a purely medical cure is considered sufficient—for example, a case of adenoids. Such a child may need very expert educational treatment for some time after its cure. Of the atypical group neurotic and neurasthenic children require temporary segregation, or at least education in special schools where their entire life can be remodeled. Of the children of the subnormal group, those who are merely incomplete or defective are most encouraging. With the children whose development is permanently checked before maturity is reached this paper has little to do. Redemption through prevention may come in the next generation.

Necessity of Expert Medical Inspection of Public Schools

Dr. Albert Rufus Baker, Cleveland: The school teacher's opinion as to what constitutes an exceptional child is often an erroneous one. Teachers will frequently credit the myopic child with more gray matter than it has, and the bright child, suffering from hyperopia, astigmatism or adenoids, may be called a dunce. It is often the school teacher who assigns impossible tasks, rather than the pupil, who needs medical supervision. The medical inspector should be specially trained and should devote his entire time to the work and should not be, as is frequently the case, a recent graduate who is given a few hundred dollars a year for making perfunctory visits to the schools. In Cleveland the school physician is paid $600 annually and a better class of men is attracted. To me the only practicable solution is the employment of expert examiners who shall devote their whole time and energy to making these examinations.

The Leakage in Our Educational System

Margaret Bancroft, president Bancroft Training School, Haddonfield, N. J., (paper read by Dr. Farrington): The inability of a certain percentage of school children to make normal advancement is a familiar phenomenon. The final result is a leakage of educable material into the streets, the jails and the custodial schools. A close study will show that practically every case of slow advancement is due to physical disability. The work of saving these children the handicap of imperfect education or the calamity of custodial life is primarily the duty of parents and teachers. An understanding of elementary physiology, psychology, hygiene, etc., should be required of every person who assumes the responsibility of parenthood or undertakes to rear and educate children. Ignorance of the elementary facts of life, growth and education on the part of parents or teachers may result in grave injury to the children. The medical profession must bear the responsibility of a large part of this ignorance which exists. We are in the habit of speaking of the mentally defective children as if the real mind of the child were at fault. The defect will be found in the injured cortex, the undeveloped association fibers, the broken axis cylinders, the blighted sensory organs, or the weak metabolic processes, and not in the higher faculties which compose the personality. We need organized and systematic instruction of parents by physicians. We need really practical courses in physiology, psychology, hygiene, etc., conducted by able physicians, in the curricula of our normal schools. We need experimental laboratories in connection with our public school systems, in charge of fully trained persons, competent to examine children who deviate from the normal work or progress of the regular grades, and to plan and execute efficient special methods of training to correct this deviation. We need better taught and more widely read physicians. Above all, we need a more optimistic spirit in handling exceptional children in order that difficult cases may not be pronounced hopeless and the children packed off to custodial schools, a procedure which is little short of criminal. The people need to be taught the truth about these things, and the opportunity to give such instruction is in the hands of the medical profession. When adequate knowledge has been imparted, the work of stopping the leakage in our educational system will be an easy task, for enlightened public opinion is all-powerful.

Care of Exceptional Children by the Children's Bureau of Philadelphia

Drs. Walter S. Cornell and J. Prentice Murphy, Philadelphia: The paper is a study of 70 cases out of 6,824 children considered by the bureau for care during 1908. Two great principles underly this work: (1) The superiority of the private home over the institution as an environmental influence; (2) the basic normality rather than abnormality of the exceptional child. The second principle is proved, first from the standpoint of the physician, as these children show no particular stigmata other than those simply due to neglect, such as squint from hyperopia, high palates from adenoids, flat chests from nasal obstruction or poor nutrition. Active types of exceptional children, those with excess of physical energy but no training, require rather long training which is best given in an institution. Backward children (defective intellect plus temperamental eccentricities) first need bracing in institutions usually but can be provided for at times in family homes direct. For morally difficult children very little scientific work is being done. There is at present no good institution for this class of children. Those standing in immediate need of strict discipline are best treated in private homes, but this is attended with such cost as to be unwise. Difficult girls present a more serious problem than boys. To care for them in institutions is the best plan in most cases. Causes of exceptional children in the family are irregular occupation, lack of training and ignorance, drunkenness; outside of the family, bad housing, inadequate and poorly adjusted school facilities, lack of playgrounds. Of the 70 children forming the basis of this paper 49 have improved, 12 being returned to their own homes. Of the 21 not improved, 12 were sent disciplinary institutions for further treatment and 9 are still in their own homes.

(*To be continued*)

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-Fifth Annual Meeting, Held in New York, May 27-29, 1909

(Concluded from page 317)

Organic Basis of Emotional Expression Illustrated by Involuntary Laughing and Weeping

Dr. Charles K. Mills, Philadelphia: The main object of this paper is to demonstrate the probable cerebral mechanism of emotional expression, in other words, to prove the existence in one of the basal ganglia of a reflex, emotive or mimetic center related by connecting tracts to both exciting and inhibiting emotive centers in the cerebral cortex, and by emissive tracts to the centers for facial expression in the bulb, and to spinal centers for movements of the limbs concerned with the expression of emotion. Some of the conclusions which I believe to be warranted by the study of several cases are: 1. In the thalamus or lenticula or in some undetermined region at the base of the brain a center for mimetic expression is located, although von Bechterew's view as to the thalamic center could not be regarded as absolutely demonstrated. 2. This center is connected with a prefrontal cortical evoking center, and also with an inhibitory motor center. 3. The pathway from the prefrontal center is probably by way of the anterior limb of the internal capsule and one of the segments of the lenticula. 4. The pathway for the motor inhibitory center is probably by way of a tract at or near the knee of the capsule. 5. The emissive tract from the basal emotive center to the nuclei of the bulb and spinal cord is probably independent of the pyramidal tracts, although passing in close contiguity with this tract. 6. The cortical centers, evoking and inhibitory, concerned with emotional expression are more highly developed in the right cerebral hemisphere than in the left; in this way contrasting with the speech centers with their high development in the left hemicerebrum.

DISCUSSION

Dr. Morton Prince, Boston: Attempts have been made by psychologists and neurologists to solve this problem, but it is so large and has so many aspects that it is a very difficult one. We must assume that all automatic movements are organized somewhere. The only question is, where? Recently Roussi has undertaken to reinvestigate this whole problem both by experimentation on animals and from the clinical material found in Dejerine's and Marie's and other clinics in Paris. His work seems very careful. He has come to the conclusion that the sole function so far established in the optic thalamus is sensory. He contradicts strongly the location of movement of any kind, whether mimetic or otherwise, in the optic thalamus. He has gone over the work of others carefully, and if his experiments stand the optic thalamus would have to be eliminated as a center.

Dr. M. Allen Starr, New York: I hope that in the review of the literature Dr. Mills will give due credit to Dr. Seguin, who published a paper which has been reprinted in his "Opera Minora," and which contains almost every fact that Dr. Mills has presented. Clinically I have been accustomed to divide cases of disturbances of emotional expression into two separate and distinct classes: first, the cases to which Dr. Seguin called especial attention, of emotional disturbances connected with the pons varolii with or without involvement of the optic thalamus; and Dr. Ernest Sachs, whose studies on the optic thalamus are more thorough and convincing than those of anyone else in the last ten years, is present, and I think it would add to the proceedings to invite Dr. Sachs to express his opinion as to the emotional centers in the optic thalamus. Second, the cases that show emotional disturbances in which the lesion is above the level of the crus where we have distinct hemiplegia, usually transient and passing off leaving a lack of emotional control.

Dr. Ernest Sachs, New York: During the past year and a half I have been engaged on experimental work on the thalamus in the laboratory of Sir Victor Horsley, and some of this work may throw light on the question Dr. Mills has raised. There is evidently a distinct connection between the thalamus and the cortical facial center, for a lesion in the lower part of the lateral nucleus of the thalamus leads to degenerations which go exclusively to the facial center, while the region dorsal to this sends fibers to the arm and leg centers. Furthermore, my work has shown that only the lateral part of the thalamus, that portion outside of the lamina interna is connected with the cortex. The median and anterior nuclei are only connected with the caudate nucleus. The center median seems to be only an association center among the thalamic nuclei and gives origin to some of the fibers of the posterior longitudinal bundle. The hypothalamus is not intimately connected with the thalamus as heretofore supposed, but bears a much closer relation to the globus pallidus of the lenticular nucleus. As to the functions of the thalamus much still has to be done, but certain points already seem to be disproved. There is no evidence of any lachrymation arising from thalamic stimulation, as the Russians under v. Bechterew have claimed. Screaming, when it does occur, only is pronounced when the termination of the fillet fibres are irritated, and this should probably be interpreted as meaning that the current has produced a strong sensory impulse in response to which the animal screams. The motor phenomena in the median part of the thalamus are mainly concerned with movements of the eyes usually conjugate in type and this may be a superior peduncle response.

Dr. J. J. Putnam, Boston: I wish to corroborate Dr. Starr's opinion. I have seen the bulbar patients act in the manner described by Dr. Starr, yet with no particular emotion. There is a fairly close resemblance in some stages between the *movements which go with pleasure and those which go with grief*, and one seems to be an intensification of the other. In the other class of cases in which one sees a lesion with somewhat similar state the emotion is certainly much more strongly present, and yet the patient is not conscious of pleasure or the reverse.

Dr. Hugh T. Patrick, Chicago: This group of symptoms is more apt to occur in bilateral or multiple lesions. One of the principal elements is probably a lack of inhibition. It is nearly always possible to start one of these patients to laughing or crying by appropriate suggestion. One may talk to one of these patients in a sympathetic or lugubrious tone and he will begin to weep, and change to the jocular vein and he will begin to laugh.

Dr. Charles L. Dana, New York: I have studied lately the syndrome of optice thalamus lesions, and we know now definitely what happens in an ordinary optic thalamus lesion. It seems to me that the old idea that the thalamus has something to do with expression is not correct and certainly not unless the thalamus is injured on both sides. Acute lesions of the pons are associated with explosive laughter and crying. In my experience, the location of the lesion when there is an explosion of laughter or crying has been almost always in the lenticular zone. The disturbance is often associated with disturbance of speech, as certain forms of jargon aphasia. So far as clinical and pathologic investigations go, we have to point to the lenticular zone and pons as being the places which are anatomically localized as the most important seats for the mechanism of expression.

Dr. F. X. Dercum, Philadelphia: I have had under observation for some time past a case of motor aphasia with forced laughter; the patient laughs almost continuously, as some of our patients with bulbar palsy laugh. Here, again, we have reason to infer that there is possibly a lesion of the lenticular zone.

Dr. C. K. Mills, Philadelphia: I have already given full recognition and consideration to the writings of Seguin and Roussi. My own views are that the part the mechanism has in evoking the control of emotion is a complicated one; that a center, concentrated part of the neural mechanism, does reside at the base of the brain. I am not sure that it is in the thalamus. I am inclined to think that it is in the lenticular zone. With regard to whether emotion itself precedes the evoking of the emotional expression, my own cases, at least, several of them, would seem to indicate that emotion, as we ordinarily understand it, does not precede the expression of painful or of pleasurable emotion in either weeping or in laughter.

Tic Douloureux of the Facial Nerve with Cure by Physiologic Extirpation of the Geniculate Ganglion

Dr. L. Pierce Clark and Dr. Alfred S. Taylor, New York (Dr. Clark's report): It has been fairly well proved that the facial is a mixed nerve, that its sensory ganglion is the geniculate ganglion and its sensory root the *pars intermedia* of Wrisberg. *This ganglion is of the spinal type and, therefore,* eligible to inflammations, as, herpes zoster, and degenerations, as, tic douloureux. It is probable that not a few neuralgic conditions of the ear are derived from disease of the sensory part of the fascialis and not, as commonly supposed, of reflex origin from the teeth, nose or throat. The neuralgic area of the facial as concerns otalgia is the anterior wall of the external auditory canal and the skin just in front of the ear. This is also supplied by a branch of the trifacial, but, if all other parts of the trifacial are unaffected, pain in this area doubtless has its seat in the facial. When all other antineuralgic measures have been exhausted without relief it is logical to assume that, as in trifacial neuralgia, operation should be done, consisting in case of the facial, of physiologic extirpation of the geniculate ganglion by cutting the pars intermedia. A patient, Mrs. E. T., aged 28, in February, 1907, began to have stabbing pain just in front of the left ear which later became of daily occurrence and lasted from two to three hours. Ear, eye, throat and general medical examination gave negative results, hence the conclusion was reached that the pain was a true tic douloureux of the geniculate system and physiologic extirpation of the geniculate ganglion was recommended. This was performed by Dr. Alfred S. Taylor, whose report follows.

Dr. Taylor's Report: The patient was referred to me by Dr. Clark with the request that the geniculate ganglion be removed, but researches on the cadaver showed this to be impracticable on account of the danger of doing injury to surrounding structures; therefore it was decided to cut the sensory root in the posterior fossa of the skull. An osteoplastic flap was turned down in the occipital region, the dura incised with the base of the flap toward the midline and its upper border just below the lateral sinus; the cerebellum was retracted and the pars intermedia exposed at the internal auditory meatus and cut. The seventh nerve and the upper part of the eighth nerve. The result was a complete facial palsy and deafness of the left ear, but complete relief of pain. The facial palsy is slowly improving and hearing has been completely restored.

The Reflexes in Hysteria

Dr. Philip Coombs Knapp, Boston: Babinksi has claimed that hysteria is incapable of modifying the tendon reflexes, and some of his followers have also contended that the skin reflexes are not altered. This is contrary to the old teaching that the skin reflexes are diminished over the anesthetic area, and that the tendon reflexes are often exaggerated on the paralyzed side in hysterical hemiplegia. I have studied the reflexes in 100 cases of hysteria in which there was a diminution of sensibility in one side of the body. I take exceptions to Babinski's claim that such a hemiaresthesia was due to unconscious suggestion by the physician. I found some exaggeration of the tendon reflexes in 86 cases and considerable exaggeration in 41; a greater percentage than is found in normal persons. I feel skeptical as to the existence of true ankle clonus, loss of knee-jerk or Babinski's reflex due to hysteria. The reflexes were found to differ on the two sides in 76 cases. In 57 cases the tendon reflexes differed on the two sides, the knee-jerk differing in 37 and the ankle-jerk in 30. In 38 cases the tendon reflex was greater on the anesthetic side; in 19 on the sound side. The plantar reflex was absent in only 2 cases, out of 24, and the abdominal reflex was diminished or lost in the anesthetic side in 24 cases out of 51. These cases therefore show that hysteria apparently modifies both the skin and tendon reflexes.

DISCUSSION

Dr. Morton Prince, Boston: I agree with Dr. Knapp regarding Babinski's theory. I do not believe that hysteria is merely a matter of suggestion or that the anesthesia encountered is entirely an imaginary condition. There is no question that in hysteria there is a great increase of suggestion and that therefore you can produce as many states as you please. You can produce anesthesia and modify it, you can draw the boundary line wherever you please, but that does not show that there is not an essential anesthesia in hysteria.

Dr. Charles L. Dana, New York: I have made tests on the reflexes in hysteria and have come to conclusions quite opposite to those of Dr. Knapp. Many years ago I reported a study of thirteen cases of true hysteria and in all of them I found reflexes lessened on the paralyzed hemianesthetic side. Since then I have noticed the same condition. I have always taught that in hysterical states the knee-jerks are rather diminished on the affected side.

Dr. F. X. Dercum, Philadelphia: I have found the reflexes very commonly unequal on the two sides. On placing the legs in exactly the same position in the majority of my cases I have found the knee-jerks plus. Dr. Dana finds the opposite. The difference may be due to our methods of examination.

Dr. Hugh T. Patrick, Chicago: This matter of reflexes is ordinarily very difficult. We have all seen at different times a difference in the knee-jerks in the normal person, the difference depending on the amount of clonus which the patient passed into the quadriceps at the time we strike the tendon. The same thing carried a bit further has satisfactorily explained the difference in deep reflexes in hysteria.

Dr. C. K. Mills, Philadelphia: I agree entirely with Dr. Knapp in his presentation of this subject.

Dr. P. C. Knapp, Boston: The statement that the reflexes may be made to vary with the method of our examination is far-fetched. The reflexes do vary according to the method employed, but many of us certainly are capable of examining the reflexes and determining whether they differ on the two sides in an ordinary case of hemiplegia and whether they are diminished in the case of tabes. That is something we are supposed to know as part of our art as neurologists.

Thrombosis of the Cervical Anterior Median Spinal Artery; Syphilitic Acute Anterior Poliomyelitis

Dr. William G. Spiller, Philadelphia: With the exception of the case reported in this paper, I know of no instance in which thrombosis has been demonstrated by necropsy to be confined to a small portion of the anterior cervical supply. The case is a contribution to syphilis as a cause of acute anterior poliomyelitis; to the position of the fibers of pain and temperature in the anterior part of the lateral columns and of the fibers of tactile sensation in the posterior columns; and to the pathology of brachial paraplegia. It demonstrates that occlusion of a limited portion of the anterior arterial system of the spinal cord or medulla oblongata produces a symptom-complex that should be capable of diagnosis even without necropsy. The case is as follows: About 4 years previous to his paralysis the patient had what was supposed to be spinal meningitis, from which he recovered. He had been in excellent health, and was employed at the time the paralysis occurred in an ice house, and with another man had been lifting blocks of ice weighing about 100 pounds. Fifteen or twenty minutes after lifting the last block he began to have pain between the shoulders, and felt numb and weak in the upper extremities. Ten or fifteen minutes later he felt weak and numb in the lower limbs. He gradually recovered the use of the lower limbs, although they remained somewhat spastic. He had normal sensation of touch everywhere. Sensations of pain and temperature were much affected in the lower and upper limbs and trunk. He was almost completely paralyzed in the upper limbs, and these limbs were much wasted. The microscopic examination showed that the lesion was thrombosis. The whole anterior part of the cord from the fourth cervical to the first thoracic segment inclusive was much degenerated. The pyramidal tracts were only slightly affected. The lesion affected the blood supply of the anterior part of the cord. The thrombosis was probably syphilitic in origin.

DISCUSSION

Dr. Bernard Sachs, New York: Everyone who has seen much of spinal syphilis will agree that anything resembling poliomyelitis in connection with spinal syphilis is an extreme rarity. I was busy with this subject ten or fifteen years ago and during that period I did not see a single case that could be relegated to this group. It seems to me that the only safeguard to put around one in endeavoring to interpret a condition of this sort during life is to insist that, in addition to the special symptoms, there should be some other symptoms pointing to a constitutional syphilis before it would be safe to make a diagnosis of syphilitic anterior poliomyelitis.

Pathogenesis of Tabetic Arthropathies Based on the Anatomic and Histologic Study of Two Cases

Dr. Alfred Gordon, Philadelphia: A degenerative state of the peripheral nerves is an essential element in the causation of the arthropathy, yet another factor is necessary, and this is trauma. In view of the hypotonia, loss of tendon reflexes and loss of sensations, traumata of the joints may occur very readily and pass unnoticed. In two of my cases, slight traumata became the starting points for later arthropathies. The smallest nerve branches distributed within and around the affected articulations (knees and foot), also the blood vessels have been carefully examined microscopically. Identical nerve branches and blood vessels were taken from the unaffected side of the body and equally examined for the purpose of control. Degenerative conditions were found in the nerves on both sides. Very slight changes were found in the blood vessels. The conclusion is that while degeneration of peripheral nerves is a *sine qua non* in the genesis of tabetic arthropathies, trauma is an indispensable element.

Pain in Tabes Dorsalis an Important Diagnostic Point in Differentiating from General Paresis

Dr. E. D. Fisher, New York: The pains of tabes are lightning-like and distributed in the peripheral nerves either in the upper or lower extremities, are girdle-like or band-like and of a duller character. They occur either in the lumbar or dorsal region or in the form of the paroxysmal crises of pain involving the various visceral organs—stomach, bladder, heart, etc. These pains in typical cases of general paresis are rare, though we have general paresis of the tabetic type, that is, with irregular spinal symptoms in which pain is present. I direct attention to this one symptom to emphasize my opinion that we have two distinct diseases in general paresis and tabes dorsalis.

DISCUSSION

Dr. Graeme M. Hammond, New York: I can not attach the same importance to the pain symptom that Dr. Fisher does. We do not see all patients with tabes suffering from sharp, lancinating pain. In fact, one patient I now have under treatment, a man of great intelligence, who has had tabes for the past 10 years and has all the symptoms of tabes, including the classical Argyll-Robertson pupil, has not had a single pain during the whole course of the disease. On the other hand, I see cases of paresis in which I can not distinguish the pains complained of from the typical pains of many tabetics. They are sharp, lancinating in character in the legs or in the arms; generally in paresis they are in the arms as well as in the legs, but they are of distinctly the same type. The symptom of pain, therefore, is not one which can be relied on in making a differential diagnosis.

Dr. H. N. Moyer, Chicago: I would like to know what typical symptoms a tabetic ought to have. There may be such, but they do not come frequently under my observation. The last speaker spoke of the typical changes in the cord; so far as my examination of cords has gone I have not found typical changes. Unquestionably tabes passes into paretic dementia of the typical sort. Not as commonly as is generally supposed, but undoubted cases are seen. I remember a classmate whom I had under observation for 12 years. There was no question of his having typical tabes. He had pain and staggering when he walked. In the last year of his life he passed into typical paretic dementia and fortunately I was able to get the cord and brain and the changes in the brain were the characteristic changes that are seen in paretic dementia and in the cord were also found the typical changes of tabes.

Dr. E. D. Fisher: I purposely made my statement as sharp as I could to bring out just the discussion which has taken place. Dr. Hammond's experience about the course of the disease in patients without pain in tabes is, of course, a common one. We may find a patient with tabes when all the symptoms are those of ataxia. Those irregular cases are the ones that I would say are apt to pass into general paresis.

Surgical Treatment of Athetosis and Spasticities by Muscle Group Isolation

Dr. Sidney I. Schwab and Dr. Nathaniel Allison, St. Louis (Dr. Schwab presented the paper): Athetoid and spastic conditions of organic origin are essentially similar processes due to several factors; the essential mechanism is nervous in origin.

The term "muscle-group isolation" implies the isolation of the muscle or group of muscles which are at fault in the production of contracture deformity or athetosis. It is made effective by cutting off from the central nervous system the connection along which the abnormal impulses, active in causing spasticity or athetosis, are transmitted. This is done by isloating the nerve and injecting it with an alcoholic solution. There results an immediate paralysis of the physiologically stronger group of muscles without interfering with the free muscular use of the antagonists. At this point physiologic exercises planned to further strengthen the antagonists may be used.

DISCUSSION

DR. B. ONUF, New York: It so rarely happens that we get therapeutic suggestions at meetings that when we do get them I do not believe a speaker should make excuses for it. I have observed that athetosis is essentially a symptom of diseases which are acquired at a very early age. I have not seen a single case of athetosis in which the lesion which caused it was acquired in adult life. I explain this to myself theoretically by assuming that there was an interruption in the pathways between the cortex and lower centers at an early date and then these lower centers acquire a certain independence and movements are acquired which are entirely independent of the will. If this is the case, then if the offensive muscles are paralyzed for a period of six months these lower centers may again forget and the cortical centers again gain their ascendancy.

DR. S. I. SCHWAB: In case of athetosis we not only paralyze the muscles, but their sensory supply totally, because there is a theory that athetosis also depends on the abnormal sensory impulse as well.

Hereditary Spastic Paraplegia with Report of Seven Cases

DR. JOHN PUNTON, Kansas City, Mo.: Hereditary spastic paraplegia is comparatively rare. In the 7 cases I report heredity was the chief etiologic factor and was of great diagnostic and prognostic value. The first group consists of 4 cases, viz.: the mother, aged 59, in whom the disease had its onset after her marriage at the age of 23; a son, aged 34, in whom it began at 16; a son aged 32, in whom it began at 15; a son aged 24, in whom it began at 14 or 15. The second group consists of 3 cases, viz.: the mother, aged 43, in whom the disease began at 33; a daughter aged 7 years, in whom it began at 6 years; a daughter aged 5 years, in whom it began in infancy. As the disease is incurable the only measures to be taken are prophylactic and consist in discouraging marriage in persons with a tendency toward this disease.

Occupation Neuritis of the Thenar Branch of the Median Nerve; A Well-Defined Type of Occupation Atrophy of the Hand

DR. J. RAMSEY HUNT, New York: A well-defined clinical type of atrophy of the hand results from an occupation neuritis of the thenar branch of the median nerve, which is induced by a compression of the small motor branch of the median nerve, as it emerges from beneath the anterior annular ligament of the wrist. This thenar branch is purely motor, and innervates the abductor pollicis, opponens pollicis, and the outer head of the flexor brevis pollicis. This group of cases is characterized clinically by a sharply defined atrophy, confined to the distribution of this nerve. The thenar eminence presents a "scooped-out" depression, lying between the outer border of the first metacarpal bone and the inner head of the flexis brevis pollicis. There are present well-marked reactions of degeneration in the affected muscles; and objective sensory disturbances in the distribution of the median nerve are absent. This type of atrophy interferes very little with the usefulness of the hand, as all the other muscle groups are normal. I would also call attention to another well-defined type of occupation atrophy of the hand described by me (*Jour. of Nerv. and Ment. Dis.*, 1908) which is dependent on an occupation neuritis of the deep palmar branch of the ulnar nerve as it passes between the tendinous origins of the abductor minimi digiti, and the flexor brevis minimi digiti. In this type, all the intrinsic muscles of the hand are paralyzed, with the exception of those which are supplied by the median nerve, and here as in the thenar type of occupation atrophy, sensory disturbances are entirely absent. The deep palmar branch of the ulnar being a purely motor nerve. The importance of these two types of occupation (motor) neuritis becomes immediately apparent from the resemblance which they bear to the Aran-Duchenne type of spinal atrophy. This resemblance is enhanced by the well-known fact that progressive muscular atrophy, beginning in the small muscles of the hand, not infrequently develops with occupations necessitating an over-activity of these members. There is no question but that cases which belong to one or the other of these two groups of occupation atrophies, without sensory disturbances, are not infrequently erroneously diagnosed spinal atrophies. Hence their clinical and diagnostic importance.

Horizontal Oscillation of the Eyeball in Paralysis of the Orbicular Branches of the Facial Nerve

DR. L. PIERCE CLARK and DR. H. H. TYSON, New York: It is fairly well known that in Bell's palsy the upward and inward or outward rotation of the eyeball is a physiologic act and is not pathognomonic of any special type of palsy as it may be shown in a normal person. Schlesinger has reported one case of horizontal oscillation and a few other observers have noted the same phenomenon. It consists of a see-saw oscillatory movement of from 40 to 60 vibrations a minute; when a persistent forceful attempt is made to close the lids, the opposite eye participates in the movement. The explanation is as difficult as that for ordinary nystagmus.

How Should the Paroccipital Fissure Be Represented in Fissural Diagrams?

DR. BURT G. WILDER, Ithaca, N. Y.: Commonly this and the parietal fissure are interpreted and represented as, respectively, the occipital and horizontal components of the intraparietal fissural complex. In apes and monkeys, young and adult, they are always continuous; the fetal conditions are unknown. In the human fetus they always commence independently and remain separate in about 40 per cent. of hemicerebrums, but unite sooner or later in the other 60 per cent. In many, perhaps most, of the cases of superficial continuity the original isthmus may be recognized as a more or less deeply submerged vadum or shallow, and it is a fair question whether cases in which the fissure at this point is less than one-half the greatest depth at either side should not be regarded as cases of separation rather than of continuity. Superficial continuity is two or three times as common as separation on the left side, but on the right separation is more common, about 55 per cent. In the light of existing knowledge, I conclude that fissural diagrams should include the dorso-caudal aspect of this region, with continuity of the two fissures on the left and separation on the right; when only one lateral aspect is shown the fissures should still be separate, but there should be a statement as to the conditions in the lower primates and in the human fetus and average adult.

Dreams as a Diagnostic and Therapeutic Aid

DR. B. ONUF, New York: Diagnostic aid may be obtained from the study of the amalgamation, or mixture of two or more different characters into one which occurred in a dream; also by noting the reversal of rôles played by different characters of real life as it occurs in dreams. Assistance in treatment of certain conditions may be secured by suggesting a dream to take place in a hypnotic or posthypnotic condition. For example, in case of a woman who had an aversion to beans and sweet cabbage which appeared to be purely psychic it was suggested that she dream in a hypnotic state that she was eating these articles with great relish. The result was that it had temporarily the desired end.

Other Papers Read and Specimens Exhibited

"Distribution of Encephalic Hemorrhages," by Dr. S. D. W. Ludlum, Philadelphia; "Exhibition of Lantern Slides Illustrating Pathologic Conditions," by Dr. M. Allen Starr, New York; "Clinical Report of a Case of Sarcoma of the Motor Area of the Left Hemisphere," by Dr. C. Eugene Riggs, St. Paul, Minn.; "Two Cases of Tumors of the Pons," by Dr. Philip Zenner, Cincinnati; "Mongolian Idiocy," by Dr. W. N. Bullard, Boston; "Case of Subcortical Auditory Aphasia with Description of the Anatomic Lesion," by Dr. Albert M. Barrett, Ann Arbor, Mich.; "Illuminated Glass Reconstructions of Brains," by Dr. Adolf Meyer, New York; "Contribution to Our Knowledge of the Idiopathic Otalgias and Their Surgical

Treatment," by Dr. L. Pierce Clark, New York; "Case of Primary Degeneration of the Pons, Cerebral Peduncles, Medulla, and, to a Less Extent, of the Cerebellum, Associated with Primary Degeneration of the Cortico-Spinal Tracts, with Autopsy," by Drs. T. H. Weisenburg and S. D. Ingham, Philadelphia; "A Study of the Zoster Zone of the Geniculate Ganglion of the Facial and the Jugular Ganglion of the Vagus," by Dr. J. R. Hunt, New York.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting Held at Philadelphia, June 3-5, 1909

(Concluded from page 320)

Prevention and Treatment of Sequels of Perineal Prostatectomy

Dr. James E. Moore, Minneapolis: Perineal prostatectomy is a life-saving operation, but a grave one, and should not be undertaken lightly. It is accompanied by a mortality rate of a little over 6 per cent. and over 17 per cent. of the operations are either complete failures or are followed by some sequel that makes the operation far from satisfactory. Owing to the age and bad condition of these patients there must be a mortality rate. The nature of the operation is such that complications and sequels are bound to occur, but at the present time the mortality rate is too high and the sequels too common. According to the latest statistics 7.4 per cent. of these operations are failures, but in competent hands the patient should always experience sufficient relief to justify the operation, though he may not be completely cured. When a patient continues to suffer pain and tenesmus after the operation it is usually due to a pocketed bladder, diseased kidneys, or an incomplete operation. The prostate is an important sexual organ, and its removal by any route or method is sure to have a decided effect on the procreative powers of the patient. Owing to the reticence and untruthfulness of patients it is impossible to state how often this sequel follows, but it is certain that it occurs so frequently that every patient who is comparatively young in years should have this possible contingency stated to him before the operation is performed. Injury to the rectum is probably the most frequent complication, often causing death, and when a patient survives he is liable to have a urethro-rectal fistula. Unskilful use of fingers, downward pulling by retractors and too tight packing with gauze are the usual causes, and by guarding against these causes this should be avoided. When the rectum is torn it should be repaired immediately. This will often fail but succeeds often enough to justify the effort. Stricture is a more common sequel than is generally believed, and is due to extensive removal of the prostatic urethra. We expect injuries to the urethra from other causes to result in stricture, and there is no reason why it should not follow this operation. Enough of the upper wall of the prostatic urethra should be preserved to secure an unbroken mucous surface extending from the bladder to the meatus. Extensive dissection of the perineum, especially when cross cuts are made, is conducive to stricture. Projecting portions of the urethra are sometimes left which constrict the flow of urine by acting as valves. Dribbling or incontinence is an occasional sequel of perineal prostatectomy and is due to injuries to the neck of the bladder and to the compressor urethræ muscles. Instruments introduced into the bladder to draw the prostate down should be used with the utmost care, lest they injure the neck of the bladder. The compressor urethræ is the important sphincter and should be preserved by entering the prostatic rather than the membranous urethra. The treatment of incontinence when once established seems to be hopeless. Perineal fistula is a rare sequel and is usually due to the deposit of lime salts, the removal of which relieves the condition. Epididymitis is an occasional sequel, but is usually of little consequence beyond the discomfort it causes, and is very often due to the injudicious passing of sounds.

Suprapubic Prostatectomy

Dr. Arthur Dean Bevan, Chicago: Splendid results have been obtained by performing both the suprapubic and perineal operations, and considering the ages of the patients on whom these operations have been done the mortality is low. Suprapubic enucleation of the prostate has the widest field of usefulness. All things considered, the cure is more complete by the suprapubic than by the perineal route. The suprapubic is less dangerous and less formidable than extensive perineal dissection. No injury is done to the musculature or perineum by the suprapubic route; there is little danger of injuring the rectum, and little probability of stricture or fistula following.

Discussion on Prostatectomy

Dr. A. J. Ochsner, Chicago: He who has done prostatectomy both perineally and suprapubically a number of times must be impressed with the great ease with which the prostate can be enucleated from above. I have removed a large number of prostates by the perineal route, and a number by the suprapubic, and have been impressed with the simplicity and ease with which the operation can be done suprapubically.

Dr. Alexander Hugh Ferguson, Chicago: My first 25 prostatectomy patients were operated on by the suprapubic route. Of this number I lost eight. I dislike to return to that method. I now resort to the perineal route. One can operate on almost any kind of enlarged prostate successfully through the perineum. If accurate statistics were collected, it would be found that the mortality is twice as high by the suprapubic as by the perineal route.

Dr. Joseph Ransohoff, Cincinnati, Ohio: The mortality from the suprapubic operation can be greatly reduced if we make perineal drainage by means of a puncture from above.

Dr. Maurice H. Richardson, Boston: I have seen many surgeons operate for the removal of prostates, but never saw one who could see what he was doing to the urethra. Speaking as an anatomist, I have never been able to tell whether I was tearing the urethra to pieces or not when operating perineally or suprapubically. Other surgeons have told me the same thing. The mortality comes from the advanced age of patients and not from the operation *per se*.

Dr. S. Stillman, San Francisco: I have a decided preference for the suprapubic operation when the urine is healthy; when the urine can not be rendered healthy, the mortality from the suprapubic or perineal operation can be overcome by following a suggestion which has been given to the surgical profession by Sir William Macewan.

Dr. A. Primrose, Toronto: My experience has been confined almost entirely to the suprapubic route. Infection of the pelvic cellular tissue is the cause of mortality in some cases in which the suprapubic route has been resorted to. It seems feasible to remove the prostate by the transperitoneal route in some cases, and, if necessary, establish perineal drainage.

Dr. John B. Murphy, Chicago: I operated on the prostate first by the perineal route, and then the suprapubic. Finally, from an experience of 123 cases I found I could take out the small, firm, hard prostate more easily and safely from below; while the large, thick, juicy prostate I could remove more easily and with greater safety to the patient from above.

Dr. Leonard Freeman, Denver, suggested a method of controlling hemorrhage in connection with the suprapubic operation.

Dr. James Moore: I expect in five years from now to hear Dr. Bevan read a paper on the complications and sequels of suprapubic prostatectomy. Dr. Murphy stands on solid ground in that he fits the operation to the case in hand, and does not try to make every case fit one particular operation.

Dr. A. D. Bevan: The evidence is conclusive in favor of the suprapubic operation from the standpoint of completeness of the cure and the freedom from complications.

One Hundred and Thirty-One Consecutive Cases of Fibroid Tumors of the Uterus Demanding Operation

Dr. Archibald MacLaren, St. Paul, Minn.: When should a fibroid tumor of the uterus be operated on? When it commences to increase in size or to cause symptoms. I think with Richardson that the same rule should be followed as in ovarian cysts or in appendicitis in the interval; but that a small subperitoneal tumor need not be removed if it is not increasing in size. It is not always possible to be certain that a given tumor is uterine and not ovarian in origin; the usual error is to diagnose a small ovarian tumor as a fibroid, on account of its smooth, hard solid feel. The subject of this paper is the last 100 consecutive hysterectomies for fibroid disease and also the myomectomies, 31 in number, which have been performed during this same period. The question of first importance is the age of the patient. A young woman should always have myomectomy, if possible. After a myomectomy the tumor may reform or other small growths, which were too deeply buried in the uterine wall or too small to be palpated, may increase in size, cause a return of the symptoms and necessitate a second operation. This has only occurred three times in my total experience of over 60 myomectomies. Myomectomy has been done during pregnancy 4 times with one miscarriage. I would not advise the removal of a uterine tumor in a pregnant uterus which was producing no symptoms. In regard to the mortality, there have been 5 deaths in the 131 cases, or 3.8 per cent.; 3 per cent. in the series of 100 hysterectomies; and 2 deaths in the myomectomies, making 6 per cent. This looks like an unjustifiable mortality for myomectomy, but as both were accidental deaths in no way due to the myomectomy, they ought not to be charged to this operation. The first was due to the giving way of the catgut purse-string suture about the stump of the appendix, which had just been removed. The second death was probably due to the leaking of a gall bladder which had been opened and drained through a stab wound, several gallstones having been found at the time of the operation for the removal of a fibroid.

One of the principal dangers of myomectomy, as well as hysterectomy, is postoperative hemorrhage. The gradual formation of a hematocele, which occasionally follows either operation should be carefully watched for; I have been in the habit of putting in vaginal drainage at the time of the operation when there was any difficulty in preventing oozing. And twice after myomectomy I have made a vaginal section on the third day, opening up and draining such hematomata with the most gratifying results. In my earlier work I lost 2 patients in whom the pus in the cul-de-sac was due to the infected, broken-down blood clot which had caused the fatal septic peritonitis which was not discovered until the autopsy. To the recognition and drainage of these accumulations of blood more than to any one thing do I ascribe my improved results over a few years ago, when I used to find them at the postmortem. The danger of a fibroid tumor producing a suppurative pelvic peritonitis is considerable. In the 100 hysterectomies, 3 came to me with pelvic abscesses complicating the tumor, either due to a perforative appendicitis or to the necrosis of the tumor, or to compression of diseased appendages. Supravaginal amputation has been my operation of choice in performing hysterectomy, and only in malignant disease or suspected malignancy have I reverted to complete removal of the uterus, and for two reasons: First, because it is a less dangerous operation in my hands; and second, because I have never seen a fibroid tumor grow in the stump of the cervix after a supravaginal amputation. Large sized catgut for the vessels, No. 3 or 4, is the best ligature material; or No. 2 double. It is awkward for tying the uterine arteries deep in the pelvis and much greater force has to be used than would be necessary on the surface, so the ligature must be larger and stronger. It is always wiser to cut the uterine arteries beside the cervix before picking them up, for they lie very close to the ureter. The only time that I ever injured the ureter was in one of my earlier operations when the uterine artery was ligated *en masse* before cutting the artery.

DISCUSSION

DR. MAURICE H. RICHARDSON, Boston: I have had a large experience in operating for the removal of fibroid tumors of the uterus, and I feel that there is a greater danger attending myomectomy for the removal of multiple tumors than hysterectomy. If you are going to give a patient a most safe procedure in a case of multiple fibroids of the uterus, it is better to do supravaginal amputation. This opinion is based on personal experience after many years of operating on these growths.

Surgery of the Large Intestine

DR. WILLIAM J. MAYO, Rochester, Minn.: Anatomically the large intestine is a connected whole, but embryologically and physiologically it can readily be divided at the splenic flexure into two well-defined parts. The proximal half is derived from the mid-gut and is an important part of the nutritive system as it absorbs about half of the fluids and 10 per cent. of the solids. The descending colon and the sigmoid are derived from the hind-gut, have an antiperistaltic motion, and act as a fecal storehouse. In the large intestine lymph drainage follows the arterial supply, but the lymphatics are not numerous and in the sigmoid are very sparse. Mobilization of the large intestine for operation is most important, and can be readily accomplished by cutting the outer peritoneal fold, which does not contain important structures, where it is reflected to the abdominal wall and lifts the gut from its bed. In this way the large intestine can be drawn outside the abdominal incision and the cut ends easily approximated after extensive resections. The inner leaf of the mesentery is very long, extending practically to the midline, and contains the arteries, nerves and lymphatics. After mobilization the arteries should be tied and divided at their origin, and the entire mesentery with the fat and gland cleanly dissected from the deep structures. The right inferior angle of the duodenum must be identified and separated in operations about the ascending colon and hepatic flexure. The ureters are attached to the peritoneum after crossing the common iliac arteries, and must be isolated, especially on the left side, to prevent injury. If a neighboring organ, such as the small intestine, stomach, bladder or uterus is adherent, it should be coincidentally resected, providing the disease is still local. In cancer of any part of the cecum, ascending colon, or hepatic flexure, all the large intestine proximal to the disease should be removed with at least six inches of the ileum, and an ileocolostomy performed between the proximal ileum and transverse colon. In cancer of the transverse colon, splenic flexure, descending colon and sigmoid, union must be made between the two segments of the large intestine, not so safe a union as that between the ileum and colon. It can be made end-to-end if sufficiently covered by peritoneum, otherwise end-to-side, or lateral, where the peritoneum is sound. If obstruction is marked, the three-stage operation of Mikulicz-Paul is advisable. In low sigmoid cancers the combined abdominal and perineal operation is best. In fleshy males the posterior, and in debilitated females the Quenu-Tuttle operations give good results in low sigmoid tumors. One hundred resections were done, with 12 deaths; for cancer, 61 times, with 8 deaths. Twenty-four cases were carcinoma of the cecum and ascending colon, with 3 deaths; transverse colon, including the hepatic and splenic flexures, were removed for carcinoma 7 times, with 1 death; descending colon and sigmoid were excised for carcinoma 30 times, with 4 deaths. For benign disease 39 times, including inflammatory disease, tuberculosis, diverticulitis, etc., 4 deaths.

Resection of the Sciatic Nerve

DR. KENNETH A. J. MACKENZIE, Portland, Ore., exhibited a patient with molluscum fibrosum, who developed, first, a tumor of the ulnar nerve, which was removed by another surgeon. Subsequently the patient developed a tumor of the sciatic nerve, which grew slowly at first, but after traumatism grew rapidly. Severe pain was transmitted to the foot from the pressure caused by the tumor. Operation consisted in removing the sciatic nerve *in toto*, with good result. Patient walks well considering that the nerve was entirely removed and the nerve supply cut off from the groups of muscles that were involved.

Operative Treatment of Fractures

DR. JOHN B. WALKER, New York, reported six cases in which he operated for the relief of deformity following fractures, with good results.

Rare Hernias

DR. WILLIAM B. COLEY, New York, reported a case of strangulated retroperitoneal hernia of the intersigmoid fossa, and one very rare (probably unique) case of interparietal ventral hernia at McBurney's point.

Suggestions for the Operative Correction of Syphilitic and Other Deformities of the Nose

Dr. John B. Roberts, Philadelphia: I call attention to the importance of the reconstructive surgery of the external nose. I state that the cosmetic improvements possible are not fully appreciated by medical men or by the public at large. The inherent difficulty in these operations is obtaining and maintaining sufficient projection of the reconstructed organ and preventing cicatricial closure of the nostrils. The early recognition of syphilitic lesions of the nasal bones and cartilages and the prompt institution of efficient antisyphilitic treatment will prevent the occurrence of many conspicuous disfigurements. Blows on the nose in childhood often cause dislocation of the nasal cartilages and bones. These lesions are untreated because of negligence in examination immediately after the injury. The frontal method is probably the best for total rhinoplasty. Flaps taken from the cheeks do well in partial rhinoplasty. Brachial flaps may sometimes be used with advantage. Portions of cartilage or periosteum from other regions of the body may be used to give rigidity to the tissues transferred to the nasal region. Paraffin injections into the subcutaneous tissues are sometimes used as an adjunct. Loss of the cartilaginous external nose below the nasal bones is probably best repaired by Keegan's frontal method. Nélaton's frontal method, which consists in incorporating a portion of costal cartilage in the frontal flap, is valuable when the bony nasal bridge is missing. My method of repairing the sunken nose of syphilis with flaps from the cheeks and midfrontal region is described as a successful operation. Suggestions for repairing irregular deformities of various kinds are made in the paper.

A Method of Combining Exploration and Decompression for Cerebral Tumors Which Prove to Be Inoperable

Dr. Harvey Cushing, Baltimore: The usual osteoplastic method of exploration of the cerebral hemispheres for a tumor, which, after exposure, proves to be inoperable, is usually transformed into a palliative or decompressive measure by the removal of the osseous layer of the resected flap. This frequently leads to undesirable consequences, owing to the unnecessarily extensive protrusion which may occur when the brain under tension is protected by scalp alone. In these cases the bone flap may be preserved and a sufficient hernia, under the protection of the temporary muscle, be provided for, through the removal, while the flap is temporarily resected, of the area of bone which underlies the temporal muscle. Thus the advantage of the usual subtemporal decompression can be combined with the more extensive cortical exploration permitted by a temporary osteoplastic resection.

Unusual Case of Gunshot Wound of the Brain

Dr. Joseph Ransohoff, Cincinnati, Ohio: This was a case of gunshot wound of the brain from a 32-caliber rifle. The patient was shot in the right temple in May, 1899. The immediate left-sided hemiplegia which followed the injury disappeared within a year. Three years later general convulsions supervened, the attacks coming on every three or four months without any focal point of origin being in evidence. The *x*-ray showed the bullet split into three parts, one evidently in the zygomatic fossa, one in the temporal fossa, and the largest fragment just within the skull on a level with the cribriform plate and probably in or near the cavernous sinus. Later left-sided paralysis supervened gradually, but I did not see the case again while alive. Death ensued with coma in twelve hours after the onset of the acute symptoms, nearly ten years after the injury. The autopsy revealed an abscess in the right temperosphenoidal lobe with a small piece of the bullet firmly encapsulated in the abscess wall. The largest fragment shown by the *x*-ray had become innocuous and embedded in the cavernous sinus.

The following papers were also read: "Treatment of Tetanus," by Dr. W. W. Hutchings, Detroit; "The History and Microscopical Study of Fifty Consecutive Cases of Excision of the Thyroid," by Dr. Francis J. Shepherd and Dr. Charles E. Duval, Montreal; "Transplantation of Skin Flaps," Dr. J. M. T. Finney, Baltimore; "Sudden Death: A Study of Certain Cases Occurring During Physical Exertion or Psychic Shock," by Dr. John B. Blake, Boston; "Inequalities of the Right and Left Femora," by Dr. A. T. Bristow, Brooklyn, New York; "Vesico-Intestinal Fistula," by Dr. F. W. Parham, New Orleans.

Medicolegal

Right of Action of Woman Negligently Injured and Caused to Abort

The Court of Appeals of Kentucky holds, in Big Sandy & Cumberland Railroad Co. vs. Blankenship, an action brought by the latter party, that a negligent act, inflicting bodily injury on the plaintiff, a woman enceinte, whereby her child dies and is caused to be born prematurely, gives the woman the right of action against the wrongdoer for her injury, including the mental and physical suffering endured as a natural and proximate result of the injury to her person.

The cases of Tunnicliffe vs. Bay Cities Consolidated Railroad Co., 102 Mich. 624, and Hawkins vs. Front Street Cable Co., 3 Wash. 592, were cited as holding that a recovery by the mother against one negligently causing the death of the child in her womb and its premature birth is not allowed. But the question decided in the first-named case, the court says, was that the loss of the society and prospective earnings of the child is not a proper element of damages in an action by a married woman for injuries which resulted in a miscarriage.

In the case at bar the instruction of the trial court did not allow a recovery for any sentimental suffering not involved in, and attendant on, the physicial pain endured by the plaintiff and accompanying the injury, and the miscarriage caused by it. While it may be true that no scales have yet been invented by the law for weighing purely sentimental grief, it is also true that none are known to the law which separate mental suffering caused by physical injury into its various elements and apportion some as actionable and others as nonactionable.

Distress of mind caused by and accompanying a physical injury is an element of damage which the law compensates. It is no more true that all minds do not suffer alike than that all bodies are not equally susceptible to pain. While physiologically all pain may be said to be mental as the law uses the term, it is recognized that pain is physical when a nerve is impinged. But there is always some mental pain. The latter grows out of the former, is produced by it, and is the former extended as a physiologic consequence. It would be as impossible in speculation as in fact to say how much of the mental suffering was the cooperation of the nerves of the brain with those of the body, and how much was psychologic.

Hence the law attempts no separation, but allows a recovery for all the suffering, both bodily and mental, which is the direct result of and accompanies a physical injury. If the injury inflicted is continuing or develops in stages, as from a fracture to septicemia, and thence amputation, it is deemed one injury, and all pain caused by and accompanying it throughout its several stages is an element of the damages which may be recovered. So if a bodily injury is inflicted on a pregnant woman, which directly or in natural consequence results in a miscarriage, the latter event is deemed a part of the original injury.

The other case cited and relied on by the defendant company (Hawkins vs. Front St. Cable R. Co.) goes further than this court understands the authorities to justify, and further than this court is willing to follow. It was there held that proof that an unborn child died and was prematurely delivered because of negligent injuries to its mother is not sufficient to establish her right to recover substantial damages for the injury. The court held that if the plaintiff showed "impairment of health and suffering growing out of the death and premature birth of her child, which would not have attended its birth at the usual time, either alive or dead, and also that the child's death is attributable to a negligent injury which she received," she could recover for her suffering and impaired health. "But," the court added, "she must show the injury by appropriate evidence, and the mere proof that the child died, and was prematurely delivered, as a result of the accident, would not be sufficient to presume substantial damage therefrom." The reasoning of the Washington Supreme Court in that case is that the pregnant woman must in time have delivered the child, and that as the pain of its birth was inevitable that it was prematurely brought about could not alone be actionable; that, in order to allow the woman to recover for the miscarriage caused her, she must have suffered pain, or ill health, which would not have followed at the usual time of the birth of the child dead or alive. Whether the pain of childbirth was greater in the one instance than in the other was not shown. Whether the mother would have suffered more pain at a subsequent time, or whether her health would then have been impaired, this court fails to see how it could have been shown.

But it is this court's opinion of the law that the woman has the right to bear her child in Nature's way and time. When by negligent violence to her person she is caused to give it premature birth, whether it be dead or alive, or whether the pain attending its birth be greater or less than at the ordinary season, she is damaged. She is made to suffer physically and mentally at a time when she otherwise would not have to suffer. The great function of her sex has been interfered with. We all know that Nature penalizes heavily infractions of its laws on this score. Such an event can not be unimportant to the woman either as it affects her body or mental equilibrium.

If one enters my house tortiously and disturbs my peace, the law gives compensation. If by noises, odors or unsightly objects he tortiously interferes with my free enjoyment of my premises, he is liable to me. If he negligently causes my cow to abort her calf, he is liable for the injury to the cow and the loss of the calf. If, then, he negligently injures the body of a woman, disturbing and deranging Nature's functions so that the fetus of her child is destroyed, and she caused to abort it, why may not she have legal complaint against the wrongdoer for her bodily suffering, and her mental suffering accompanying and growing out of it? If in the collision she had had a tooth knocked out, there would be no doubt of her right to action, although had she lived she would have lost the tooth in every probability; and maybe have suffered as much or more pain from it and in having it pulled than she experienced in having it knocked out by the defendant's negligence.

An award of $500 damages is referred to as "very modest," and judgment therefor affirmed.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

July 17

1 Enzyme Treatment for Cancer. W. S. Bainbridge, New York.
2 *Study of Tremors. M. Neustaedter, New York.
3 Gastric Surgery of the Present Day. R. C. Coffey, Portland, Ore.
4 Treatment of Specific Urethritis (Gonorrhea) in the Male. J. R. Hayden, New York.
5 A New Sphygmomanometer. J. Rudisch, New York.
6 *Simple Method for Preparing a Useful Stain. R. W. King, Las Animas, Colo.

2. **Tremors.**—Neustaedter has devised an instrument for recording the sort of movements in each tremor, so that they may be differentiated. His apparatus consists of a kymograph, a tambour of the Marey type, with a string attached to the lever and fastened by a hook to a piece of rubber adhesive plaster, and a recording tambour with a paper writing point. The two tambours are connected by a rubber tube. The affected part is placed in a comfortable position and the adhesive strap attached to it. The author has made 328 tremograms of all the diseases in which tremor exists, and finds that the different types of tremor may be distinguished by the records they make. The difference between tremors is of kind, not of degree, and every form of tremor is distinctive of a group of diseases. No definite relation exists between one form of tremor and another. The frequency of movements has no bearing on the character of the tracing. There is no material difference between the movements of the two sides of the body.

6. **Simple Method of Preparing a Useful Stain.**—King describes a method for preparing a stable blue stain which is used in making a modified Romanowsky staining fluid. The following is the working formula:

	gm. or c.c.		
Methylene blue (Grublers)	1	or	gr. xv
Sodium acid carbonate (C. P.)	5		gr. vij
Sodium acid sulphate (C. P. crystal)....	7		gr. viij
Distilled water, q. s.			

Dissolve the methylene blue and the sodium acid carbonate in 100 c.c. of distilled water. Transfer to a porcelain dish (500 c.c.) and evaporate to dryness directly over the flame, a wire gauze being used to distribute the heat. The solution should be allowed to boil gently until from one-half to two-thirds of the water has escaped. The heat is then somewhat reduced, evaporation hastened, and spurting prevented by occasionally tilting and rotating the dish so as to cause the fluid to flow on the sides of the dish. When perfectly dry, and almost cool, add the acid sodium sulphate previously dissolved in from 10 to 15 c.c. of distilled water. Rotate and tilt the dish to bring this acid solution in contact with all the stain in order to insure complete neutralization of the sodium carbonate present. When effervescence ceases, again evaporate to complete dryness over the flame. Remove the stain by means of a small spatula and keep as free from moisture as possible.

Boston Medical and Surgical Journal

July 15

7 *Pathologic Physiology of Intracranial Tumors. H. Cushing, Baltimore.
8 Aural Complications in the Exanthemata. C. R. C. Borden, Boston.
9 *Lactic Acid Bacteria in Chronic Suppurative Nasal Conditions. J. L. Goodale, Boston.
10 Specimen of an Encapsulated Brain Abscess: Congenital Occlusion of the Cartilaginous Canal. H. P. Mosher, Boston.
11 *Anesthesia for Adenoid and Tonsil Operations. A. H. Miller, Providence, R. I.

7. **Intracranial Tumors.**—Cushing says that contrary to the common belief, brain tumors are of frequent occurrence, and possibly there is no disease in which the symptoms are more often overlooked or incorrectly interpreted. For the sake of successful palliative or curative measures, a precocious diagnosis is necessary, and a careful clinical study of all suspected cases at an early stage, with a more intimate knowledge of the local and general pressure phenomena, will tend toward this desired goal. A more widespread familiarity with the early appearance of the neuroretinal edema and congestion is needed, and also the understanding that this condition is merely a stage in the process of choked disk. Inversion or interlacing of the boundaries of the color fields, heretofore regarded as pathognomonic of hysteria, has been found to be a fairly constant early phenomenon in tumors.

One recognized characteristic of the brain under pressure is its tendency to herniate through a cranial defect, and as there is normally an opening at the foramen magnum a certain degree of protrusion is usually present there. In the presence of such a condition, the withdrawal of the cerebrospinal fluid from the spinal meninges by a lumbar puncture is often hazardous, as it may tend to a sudden wedging of the bulb in the opening, with anemia and paralysis of the vital centers.

The pituitary body proves to be one of the most important of the ductless glands. It not only may be the primary seat of a new growth, but in the case of intracranial tumors elsewhere, particularly when they are accompanied by hydrocephalus, its function may secondarily become disturbed in ways which are clinically recognizable. The conducting paths in the brain are more often affected by simple pressure from tumors than by actual destruction, and the removal of the growth or simple relief from pressure may often lead to a surprisingly rapid restoration of function. For an accurate focal diagnosis a thorough, early examination is often necessary, for with an advancing lesion symptoms at a distance may greatly confuse the clinical picture. A considerable percentage of patients who present themselves for surgical treatment are so nearly blind that a study of the visual fields, which should be one of the most helpful localizing signs, is precluded. From a histologic point of view the classification of brain tumors is most unsatisfactory, and the general behavior and manner of growth of many of them does not conform with accepted views. Some gliomata may be definitely encapsulated and favorable for operative removal, and many tumors of this supposedly malignant type may undergo cystic degeneration or gelatinous transformation.

9. **Lactic Acid Bacteria.**—During the past four months Goodale treated a series of cases by cultures of bacteria generating lactic acid. These cases included conditions of atrophic rhinitis with ozena, and chronic suppuration of the various sinuses. The preparation was sent twice a week from the laboratory, in 2-oz. bottles, and a sufficient quantity was given to the patient to use in an atomizer. Fresh material was given them every week, with instructions to keep it in a cold place, and to observe aseptic precautions so far as possible in handling it. The patients were told to cleanse the atomizer with alcohol before introducing the culture fluid, and in the case of atrophic rhinitis with crust formations to remove the crusts as completely as possible before employing the spray. Goodale is of the opinion that a distinct effect has been produced by the culture in some cases of ozena, characterized by generalized crust formation. The results appear to be comparable to those produced by argyrol. It remains to be seen, however, whether more than a temporary effect is produced. In localized chronic suppurative sinusitis, attended by hypertrophy and polyp formation, no effect could be detected.

11. **Anesthesia for Adenoid and Tonsil Operations.**—Miller's apparatus has been used in nearly 1,000 tonsil and adenoid operations and provides for the continuous etherization of such cases without in any way interfering with the operation. It consists of a vaporizer which is worked by a foot pump and of several accessory implements which may be connected with the vaporizer by a long rubber tube. The features of this apparatus are:

1. It will vaporize 15 oz. of ether in an hour and will readily provide sufficient anesthesia in an adult with the face uncovered for a laparotomy of an hour's duration.
2. Neither the inlet nor the outlet tube dips into the ether. For this reason it is impossible to force liquid ether back into the patient's air passages.
3. The atomizer of the vaporizer sprays directly into the outlet tube. Thus the vaporizer is very sensitive to changes in the air pressure supplied to it.
4. The length of the outlet tube is such that when the ether spray reaches the top of the tube it has been converted into a vapor, imperceptible except from its odor.

The accessories which complete this apparatus are a mouth gag which has an ether tube incorporated in one of its jaws, a mouth tube similar to the tube of the Junker apparatus, a soft rubber nasal tube and a double nasal tip. For the adenoid operation the mouth gag or the double nasal tip is selected.

New York Medical Journal

July 17

12 Microscopic Diagnosis of Intralaryngeal Growths, from a Practical Standpoint. J. Wright, New York.
13 *Diagnosis of Intestinal Tuberculosis. J. Walsh, Philadelphia.
14 *Remissions in General Paralysis: Three Cases, including Postmortem Examination. M. J. Karpas, New York.
15 Pneumococcus Arthritis. A. Strickler, Philadelphia.
16 *Chloroform Dropper Ampoules. F. H. McMechan, Cincinnati.
17 Reflex Mechanism and Clinical Significance of the Important Reflexes. S. P. Goodhart, New York.
18 One Hundred and Fifty Consecutive Laparotomies. E. R. Secord, Brantford, Canada.
19 Acute Veronal Poisoning. J. L. Eckel, Buffalo.

13. **Intestinal Tuberculosis.**—According to Walsh the symptoms diarrhea, abdominal pain, tenderness and rigidity mean very little or nothing in the diagnosis of intestinal tuberculosis. The presence of an ischiorectal abscess in an advanced case adds to the probability of intestinal ulceration. The diagnosis of intestinal tuberculosis can not be made with the slightest degree of certainty from our present known symptoms, and since the condition carries with it such an unfavorable prognosis, in order to reassure the patient, the nurse, and the physician himself the diagnosis should not be made so that the patient will have a better chance for hopeful treatment.

14. **Remissions in General Paralysis.**—Karpas reports three cases of general paralysis in which remissions occurred. Two cases were of the tabetic and one case was of the cerebral form. Two patients were decidedly elated and grandiose and one showed a definite depression with general slowness in action and thought. Remission in the first case lasted one year, in the second case about two years, and more than five months in the third case. It is interesting to note that in none of them heredity or psychotic traits were demonstrable, and, moreover, the remission did not occur at the time of infection or suppuration. Syphilis could not be satisfactorily ascertained, but doubtless it could be excluded. In the second patient there were suspicious signs of luetic infection, such as sterility and history of nocturnal headaches. The disease picture, save for the remission, presented no anomalous traits; in each instance the diagnosis of general paralysis could be made without reservation.

16. **Chloroform Dropper Ampoules.**—The dropper ampoule, described by McMechan, is a glass container, the end of which elongated into a cone-like projection, turned at the tip and ending in a bead-sealed capillary tube. On the shoulder of this container is a second capillary projection similarly sealed. The ampoule holds about thirty grams of chloroform, an amount seldom exceeded in the ordinary run of narcoses for single operations. The container is marketed in strong cardboard boxes fully protected from breakage, thus making it a handy package for the emergency or obstetrical bag. To use the dropper ampoule it is only necessary to break off the bead-like tips of the capillary endings. This is most readily accomplished by previously nicking the neck of the tube with an aluminum file supplied in the container, or by clipping off the bead tips with a scissors. The elongated end of the container thus becomes the dropping point and the capillary ending of the shoulder bubble the air inlet. The pressure of the index finger on the capillary ending of this shoulder bubble regulates the influx of air, and the frequency of the drip may be retarded or increased at will. Also the angle at which the container is held plays an important part in regulating the rate at which the chloroform may be made to drop.

Lancet-Clinic, Cincinnati

July 10

20 Tonsils as Portals of Infection. W. Mithoefer, Cincinnati.
21 Hydriatic Treatment of Cardiac Lesions. C. Pope, Louisville.
22 Protracted Birth of Second Intrauterine Twin. B. M. Ricketts, Cincinnati.
23 Vaginal Injuries and their Rôle in Puerperal Infections. W. D. Porter, Cincinnati.

Northwestern Lancet, Minneapolis

July

24 Surgery of the Kidney and Ureter. R. E. Farr, Minneapolis.
25 Notes on a Trip Abroad. W. A. Jones, Minneapolis.
26 Case of Exstrophy of the Bladder. A. T. Mann, Minneapolis.
27 Epidemic Infantile Paralysis. D. M. Strang, Northfield, Minn.

International Clinics, Philadelphia

Vol. II, Nineteenth Series

28 Immunization Against Typhoid. H. Shoemaker, Philadelphia.
29 Mineral Waters in Syphilis. C. de la Carrière, Paris, France.
30 Diagnosis and Treatment of Pneumonia in Children. L. Fischer, New York.
31 [illegible] oveland, Syracuse, N. Y.
32 [illegible] Pleurisy and its Treatment. H. B.
33 [illegible] Niles, Atlanta, Ga.
34* [illegible] enomegaly with Chronic Acholuric [illegible], London, Eng.
35 Diabetes. E. F. Wells, Chicago.
36 Congenital Idiopathic Dilatation of the Colon (Hirschsprung's Disease). P. Daniel, London, Eng.
37 Surgical Pneumothorax as Treatment for Phthisis. F. Dumarest, Paris, France.
38 Present Status of the Cammidge Reaction. E. H. Goodman, Philadelphia.
39 Treatment of Abscess in Hip Disease. H. Schwatt, Philadelphia.
40 Kraurosis Vulvæ. R. F. Woods, Philadelphia.
41 Diagnosis of Pelvic Diseases in Women. C. W. Hibbit, Louisville.
42 Intraocular Tumors. L. Buchanan, Glasgow, Scotland.
43 Refrigeratory Facial Paralysis: How it is Produced. H. O. Reik, Baltimore.
44 Anorectal Fistula and its Treatment. B. Asman, Louisville.
45 Psychometric Methods in Diagnosis, Prognosis, and Treatment of Cerebral Disorders. T. A. Williams, Washington, D. C.
46 Perithelioma Testis. F. G. Bushnell, London, and H. N. [illegible]
47 [illegible] Cerebral Hemorrhage. A. G.

Journal of Infectious Diseases, Chicago

June

48 *Susceptibility of Gophers, Field Mice, and Ground Squirrels to Plague Infection. G. W. McCoy, U. S. P. H. and M.-H. S.
49 *Immunity of San Francisco Rats to Infection with *B. Pestis.* G. W. McCoy, U. S. Public Health and Marine-Hospital Service.
50 *Immunologic Observations in Ulcerative Cystitis Caused by Pseudodiphtheria Bacillus. E. C. Rosenow, Chicago.
51 **Bacillus Bulgaricus.* P. G. Heinemann and M. Hefferan, Chicago.
52 Bactericidal Substance in Leucocytes. T. Watabiki, Tokyo, Japan.
53 *The Tubercle Bacillus in Milk. G. McConnell, St. Louis, Mo.
54 *Cultures of Bacilli Isolated from Milk. A. F. Hess, New York.
55 Characteristics of the Streptococci Found in Scarlet Fever. B. van H. Anthony, New York.
56 An Epidemic Among English Sparrows Due to *Bacillus Cloacæ.* T. H. Glenn, Chicago.
57 *Opsonic Index in Acute Articular Rheumatism. R. Tunnicliff, Chicago.
58 So-Called Agglutinoids. E. C. L. Miller, Detroit.
59 *Bacterial Integrity of Celloidin and Parchment Membranes D. D. Todd, Chicago.
60 *Rocky Mountain Spotted Fever in the Rabbit. L. Gomez, Manila, P. I.
61 *Influence of the Ingestion of Dead Tubercle Bacilli on Infection. M. J. Rosenau and J. F. Anderson, Washington, D. C.
62 *Relative Proportio Milk (Cream Layer) and Bottom Mill s Bearing on Infant Feeding. J. F. D. C.

48. **Plague Susceptibility and Immunity.**—McCoy concludes that gophers are not sufficiently susceptible to infection with the plague bacillus to be of any importance from an epidemiologic point of view; that field mice are about as susceptible as rats, but coming in contact with man but rarely, they probably will not be a serious factor in the spread of plague. Ground squirrels, on the other hand, are of the utmost importance in plague epidemiology.

49. **Id.**—A considerable immunity to plague was found among the wild rats of San Francisco, especially the old ones, and this immunity is held to be natural in most cases.

50. **Ulcerative Cystitis.**—A pseudodiphtheria bacillus was found constantly in the urine and predominated in the smears from the scrapings of the ulcers. The serum of the patient had a high agglutinating power on this bacillus, and the phagocytic power of the leucocytes varied in a manner specific for this bacillus. Injection of killed bacteria increased the opsonic power of the serum for the bacteria injected and the phagocytic activity of the patient's leucocytes appeared to increase after the injections and more when in their own serum than when in normal serum.

51. **Bacillus Bulgaricus.**—This bacillus appears to be widely distributed in nature, occurring normally in human feces, in the feces of cows and horses, in a variety of sour and aromatic foods, in normal saliva and gastric juice, in various fermented milks, in ordinary milk and in soil. It grows best in milk or media composed of whey, peptone and glucose. In milk it may produce more than 3 per cent. acidity, the acid being composed approximately of 6 per cent. volatile acid and 94 per cent. lactic acid (optically inactive). It is suggested that the presence of this bacillus in normal saliva may cause dental caries on account of its acid producing powers. It is self-evident that the presence of *B. bulgaricus* in human feces after ingestion of milk fermented by it, is not proof of its permanent acclimatization in the digestive tract, as it may be present normally.

53. **Tubercle Bacilli in Milk.**—McConnell's investigations indicate that the greater the number of sources from which milk is derived the greater the likelihood of infection by tuberculosis, and that commercial pasteurization, by the flask method is sufficient to destroy the tubercle bacillus.

54. **Id.**—Hess found tubercle bacilli 17 times in 107 samples of milk retailed from 40-quart cans in New York City. Of 8 strains studied minutely, 7 were found to be bovine in character, and one was found to belong to the human type. This is the first time that tubercle bacilli of the human variety have been isolated from milk, and indicates another source of danger from contamination by tuberculous persons.

57. **Opsonic Index in Acute Articular Rheumatism.**—The opsonic index for the so-called *Micrococcus rheumaticus* (Beattie, Poynton and Paine) and *Streptococcus pyogenes* follows the same course in acute articular rheumatism. When the joints become involved and the temperature rises, the index falls below normal, to rise again above normal as the joints and symptoms generally improve. The opsonic index, therefore, does not help to differentiate *M. rheumaticus* from *S. pyogenes.* The results of the study indicate that streptococci play an essential part in acute articular rheumatism.

59. **Bacterial Permeability of Membranes.**—Contrary to the accepted view, celloidin and parchment membranes are not impermeable to the passage of all bacteria. Inasmuch as the typhoid bacillus, among other bacteria, may escape through such membranes, the accepted results of experiments on the longevity of the typhoid bacillus in water require re-testing.

60. **Rocky-Mountain Spotted Fever.**—Gomez says that the rabbit is susceptible to the virus of Rocky-Mountain spotted fever as cultivated for a long time in the guinea-pig. The disease is milder in its symptoms than that produced in the monkey and guinea-pig. The blood of rabbits at the height of the disease is ineffective for guinea-pigs. It has been possible to transmit the disease from one rabbit to another through six animals successively. The blood of rabbits which have recovered contains bodies which protect against the disease, such bodies being largely or entirely absent from the blood of normal rabbits.

61. Abstracted in The Journal, June 12, 1909, p. 1949.

62. **Bacteria in Top Milk and Bottom Milk.**—It was found that top milk sometimes contains from 10 to 500 times as many bacteria per c.c. as the mixed milk. This may explain why infants sometimes do not thrive on modified milk made from top milk. When milk is centrifuged the great mass of bacteria goes up with the cream, a much lesser number being carried down with the sediment. The skim milk contains fewer bacteria per c.c. than the cream or sediment layers. Centrifugally raised cream contains more bacteria per c.c. than gravity raised cream from the same milk.

Long Island Medical Journal, Brooklyn

July

63 Heredity. W. A. White, Washington, D. C.
64 Salpingo-Otitis Media. S. B. Allen, Brooklyn.
65 Chronic Constipation in Infants and Children. Le G. Kerr, Brooklyn.
66 Intestinal Obstruction Due to Meckel's Diverticulum. R. W. Westbrook, Brooklyn.
67 Two Cases of Eclampsia, Clinically Suggestive of the Newer Pathology. O. P. Humpstone, Brooklyn.
68 Pyelitis of Pregnancy: Results of Postural Treatment and Renal Lavage. P. M. Pilcher, Brooklyn.

Archives of Internal Medicine, Chicago

June

69 *Experimental Production of Chronic Nephritis in Animals by the Use of Uranium Nitrate. E. C. Dickson, San Francisco.
70 *The *Treponema Pallidum.* B. White and O. T. Avery, Brooklyn, N. Y.
71 *Production of Edema. R. M. Pearce, New York.
72 *Protein Metabolism in Addison's Disease. C. G. L. Wolf and H. C. Thatcher, New York.
73 *Mild Uncinaria Infections. C. C. Bass, New Orleans.
74 Current Ideas on Aphasia. A. W. Hoisholt, Stockton, Cal.
75 *Diagnostic Value of Hemolysis in Cancer. R. Ottenberg and A. A. Epstein, New York.
76 *Influence of the Soft Tissues of the Arm on Clinical Blood Pressure Determinations. T. C. Janeway, New York.
77 *Effect on Heart of Experimental Obstruction of the Left Coronary Artery. J. L. Miller and S. A. Matthews, Chicago.
78 *Serum Disease. G. H. Weaver, Chicago.
79 *Disease of the Optic Nerve as an Early or Earliest Symptom of Multiple Sclerosis. A. Gordon, Philadelphia.
80 Anaphylaxis. J. G. Anderson and M. J. Rosenau, Washington, D. C.

69. **Chronic Nephritis in Animals.**—By the use of uranium nitrate Dickson was able to produce in animals lesions which closely resemble those found in subacute and chronic diffuse nephritis in man. A long continued mild intoxication with this drug led to the production of a "subchronic" (Weigert) interstitial nephritis which appeared to be progressive. A series of several attacks of subacute uranium nephritis led to extensive fibrotic changes in the kidney which in some cases went on to the stage of a granular atrophy. In a certain number of cases this condition was associated with polyuria. Dickson also found that a single severe attack of acute parenchymatous nephritis may be followed after some weeks by a more or less severe fibrosis, which in some cases goes on to extreme granular atrophy. In other cases, however, the recuperative power of the kidney is such that only a moderate fibrosis results.

70. The Treponema Pallidum.—From the review of certain staining methods, and from the observations made in the bacteriologic examination of syphilitic and non-syphilitic lesions, White and Avery reach the following conclusions:

1. The staining method as described by Schereschewsky appears to be the most satisfactory one for general use.
2. The presence of the *Treponema pallidum* in a suspected lesion may undoubtedly be considered as establishing the specific nature of the infection.
3. A negative result does not necessarily exclude the presence of syphilis. In this event further examinations should be made, and, when these lead to negative results a proper period of time should be allowed to elapse in order that the appearance of the secondary symptoms may establish the diagnosis.

In the clinic of the House of Relief (Brooklyn) the finding of the treponema has been considered as affording a positive diagnosis. The treatment when begun immediately on the report of a bacteriologic diagnosis has led to gratifying results.

71. Production of Edema.—Pearce made an experimental study of the relative etiologic importance of renal injury, vascular injury and plethoric hydremia. In uranium nephritis the ease with which edema is produced when an excess of water is administered illustrates the importance of hydremia in the causation of edema. The influence of vascular injury is not very plain in the uranium experiments, but is conclusively shown in those in which ricin, venom and arsenic were administered in the course of a chromate nephritis; in all of these the influence of hydremia is also evident. A consideration of all the results recorded appears to demonstrate conclusively that, under the conditions of these experiments, plethoric hydremia and vascular injury have equal value with nephritis in the production of edema, and that none of these three factors acting alone, and no combination of two acting together, is sufficient to cause edema. The experiments with nephrotoxic immune sera point to the possibility that substances, presumably endotheliotic and capable by vascular injury of aiding in the production of edema, may be contained in serum.

72. Protein Metabolism in Addison's Disease.—Wolf and Thacher studied the nitrogen and sulphur metabolism in a patient who had Addison's disease and who was on a purin-free diet. The desamidating capacity of the patient (capacity to reduce amid nitrogen) and his capacity to transform the sulphur of the cystin group into sulphuric acid were absolutely comparable to that of normal individuals. A considerable degree of acidosis was observed which is not accounted for by any factor which was found in this examination. The endogenous metabolism of the patient, as represented by the kreatinin and uric acid outputs was below that of normal subjects.

73. Mild Uncinaria Infections.—Bass employs a method for detecting the ova of the uncinaria which he considers better than any other. A quantity of feces is well diluted with water, 1 in 10, and strained through gauze to get rid of coarse particles. This is centrifugalized, the fluid poured off, the centrifuge tube refilled and centrifugalized again until all the diluted feces have been used. The precipitate is rewashed several times with water as long as anything can be washed out. To know just how long to continue the centrifugalization is the secret of success. One must learn just what is the proper time for his centrifuge. It should be carried out at high speed and just long enough to throw the eggs to the bottom. Too long centrifugalization defeats the purpose. With a centrifuge running 3,500 revolutions a minute, ten seconds at first, when there is much matter, and then four to five seconds is usually the proper time. The centrifuge must be steady. This gets rid of most of the very small things, those having flat rough surfaces and those having a specific gravity about that of water. Now the precipitate should be washed before using calcium chlorid solution of a specific gravity up to 1050. This disposes of everything having a specific gravity below 1050, and the precipitate may now be examined. There frequently remains a considerable amount of material, much of which is appreciably heavier than the eggs and of such a character that it interferes much with their recognition. This material may be removed by centrifugalizing with a solution sufficiently heavier than the eggs. A solution with a specific gravity of 1,250 is very satisfactory. In such a solution the eggs go to the top. With an appropriate pipette one may remove a few drops from the surface and examine, or, what is still better, pour off some of the top fluid containing eggs, dilute with water sufficiently to bring the specific gravity below 1050, and centrifuge again. The precipitate will now contain most of the eggs contained in the original amount of feces, and may all be put on one slide and examined. One such slide contains as many eggs as could be found in several hundred ordinary slide preparations of feces. With this technic, Bass was able to recover 96 per cent. of 1,000 eggs put in one ounce of feces, 94 per cent. of 100 eggs in the same quantity, and 60 per cent. of 10 eggs in one ounce.

75. Hemolysis in Cancer.—As the result of a careful investigation, Ottenberg and Epstein arrive at the conclusion that hemolysis can not at present be relied on as an aid in the diagnosis of cancer.

76. Blood-Pressure Determinations.—Janeway records two cases which he thinks demonstrate clearly that an influence of the soft parts of the arm on clinical blood-pressure determinations does not exist, and that discrepancy between clinical blood-pressure estimations and direct manometric readings from the same limb, if found, must be explained either by resistance of the arterial wall or by errors in the readings.

77. Obstruction of the Left Coronary Artery.—Miller and Matthews found that either main trunk of the left coronary artery may be ligated without seriously disturbing the heart. In the cases reported by the authors, ligation of the descendens 25 mm. or less from its orifice, after previous ligation of the circumflex, always caused cardiac standstill. The left ventricle stopped beating first. When either of the two main branches of the descendens is ligated and the animal is allowed to recover, no evidence of cardiac disturbance is apparent for a period varying from one to three months, when very acute symptoms of cardiac insufficiency develop which rapidly prove fatal. The previous administration of strophanthus permits much more extensive ligation of the coronary arteries without serious consequences.

78. Serum Disease.—Weaver prefers the terms "serum disease" and "serum reaction" to other expressions which have been used in speaking of the symptoms provoked by injections of alien serums. The reaction is dependent on the proteins of the serum and bears no relation to the antitoxin or other antibodies contained in the serum. In general, the serum of one species of animal is toxic when injected into an animal of another species. The occurrence of a serum reaction after the injection of antidiphtheria horse serum is determined in part by the susceptibility of the individual and the toxic properties of the particular serum administered, but in largest measure by the total quantity of serum employed. Precipitated serum calls forth reactions in about the same proportion of cases as does whole serum in corresponding bulk.

The interval between the injection and the appearance of the reaction varies from a few minutes to three weeks or more. The majority of reactions appear before the eleventh day. The length of incubation is dependent on the number of injections and the quantity of serum. When a primary injection, after an interval of ten days or more, is followed by a secondary one, the subsequent reaction is apt to be intensified and to occur after a shorter incubation period. Serum reactions following secondary injections correspond to the phenomena of anaphylaxis in experimented animals which may be provoked by various serums and also by many other substances of a protein nature. While the administration of antidiphtheria horse serum is usually devoid of danger, in rare instances persons who have been rendered hypersensitive by previous injections or in some hitherto unknown manner may be made alarmingly ill and may even die as the result of such injections.

Certain precautions should be observed in the injection of horse serum. When there is a history of asthma, etc., the possible danger should be stated distinctly before serum is administered. For the protection of other members of the profession who meet similar experiences all fatal cases should be reported. The rare occurrence of unfavorable results from the use of antidiphtheria serum should not deter the physician from urging its administration in every case of diphtheria.

79. **Eye Symptoms in Multiple Sclerosis.**—In the last seven years 56 cases of multiple sclerosis have come under Gordon's observation in the clinics of various hospitals and in private practice. They all presented the cardinal classical symptoms of the affection. These 56 cases presented clinically nystagmus, staccato speech, intention tremor, exaggerated patellar and Achilles tendon reflexes on one or both sides; some of them also presented a history of apoplectiform seizures and vertigo. Twenty-three patients showed changes in the optic nerves. Of these 23 Gordon excludes 5, in whom the optic neuritis and atrophy were the earliest or the only sign of the disease; 18 presented changes in the papillæ, together with other symptoms of multiple sclerosis. In how many of these cases the changes in the optic nerves developed first could not be determined, as they came under observation when the entire symptom-group was present. Close questioning, however, revealed the fact that some indefinite disturbance of sight in one eye first attracted the attention of 8 of these 18 patients.

As to the changes themselves, the 18 patients presented the following at the time of the examination: Optic atrophy was present in 11 patients, in 8 of whom it was unilateral (on the left), in 2 more marked in the left eye than in the right, and in 1 bilateral and equal. In the last 3 the optic atrophy always began on one side, but was rapidly followed by the involvement of the other eye. In the 8 patients with unilateral involvement the condition remained confined to the same side for a long time, but finally the other eye became involved. In the remaining 7 patients of the series retrobulbar neuritis was present at the beginning for a period of from 2 to 5 months and optic atrophy developed later. Vision in all the 18 was at first very *much impaired*. Scotomata were present, more on one side than on the other. In the 11 with unilateral optic atrophy scotomata were conspicuous on both sides. The central vision was preserved in the majority of the 18 cases. The acuity of vision was not in direct proportion to the involvement of the optic nerves.

The chief interest of the subject lies in the optic nerve changes as a very early or as the *only symptom of* multiple sclerosis. Gordon has had 5 such cases during the last 7 years. In the first 3 the *involvement of the optic nerves* with disturbance of vision appeared first, and many months later the classical *symptoms of multiple* sclerosis began to develop. In the fourth case, if it is one of multiple sclerosis, the eye symptoms are the *only signs* of the disease. *Three* and one-half years have elapsed since visual disturbances made their first appearance. So far, the islets of sclerosis are confined to the cerebrum. In the fifth case, in addition to the optic atrophy which had been in existence seven years, there are only two physical symptoms of multiple sclerosis.

Journal Tennessee State Medical Association, Nashville

June

81 Squint and its Treatment. W. Dotson, Gallatin.
82 Surgery of the Thyroid. R. M. McCown, Knoxville.
83 Cancer of the Breast. G. R. West, Chattanooga.
84 Amebic Dysentery and Appendicostomy. J. P. Bates, Nashville.
85 Membranous Croup. G. E. Vaughan, Clarksville.
86 Leukemia. R. J. McFall, Cumberland City.

Washington Medical Annals

July

87 Hygiene and Sanitary Science. G. M. Kober, Washington.
88 Life of Thomas Sydenham, M.D. J. B. Nichols, Washington.
89 *Five Hundred and Fifty Cases of Typhoid in Children. S. S. Adams, Washington.
90 Perplexing Complications Found in Gallstone Surgery. I. S. Stone, Washington.
91 Pneumococcus Leptomeningitis. D. S. Lamb, Washington.
92 Stricture of the Urethra. H. A. Fowler, Washington.
93 Keloid of the Labium Majori. D. P. Hickling, Washington.
94 Epithelioma of the Jaw. E A. Balloch, Washington.

89. **Typhoid in Children.**—Of the 550 cases cited by Adams, 420 patients were treated during July, August, September and October. There were 296 boys and 254 girls; 23 were under two years, 77 at 11 years of age, which represents the minimum and maximum ages. As early as 1872 the oyster was recognized as a carrier of the bacilli in one case. Perforation was found in 17 cases, all being of the ileum; 28 deaths resulted from hemorrhage. Rose spots were present in 133 cases, but, as about 20 per cent. of the cases occurred in negroes, the percentage is not accurate. Epistaxis was found in 4.9 per cent., in one case being fatal. Convulsions occurred in 16 and post-typhoidal insanity in 9. The fever is described as being mild in 264; moderately severe in 132; severe in 142; irregular in 2; sudoral in 10. There were 48 relapses, 4 cases having 2 each. There were 65 deaths, a rate of 11.8 per cent., a number of the children having died within 24 hours after admission. From 1872 to 1882 the mortality was 30.76 per cent.; from 1882 to 1891 it was 20.33 per cent.; from 1892 to 1903 it was 11.1 per cent.; from 1903 to 1908 it was 7.9 per cent. Various methods of treatment have been pursued during the time stated, and of late liberal feeding is assumed to shorten convalescence and prevent post-typhoidal complications.

Cleveland Medical Journal

June

95 Treatment of Chronic Intestinal Autointoxication. F. Forchheimer, Cincinnati.
96 Significance of Coordinated Reflexes in Differentiating Between Functional and Anatomic Diseases of the Nervous System. C. F. Hoover, Cleveland, Ohio.
97 The Medical Expert Witness. D. C. Westenhaver, Cleveland.
98 Medical School Inspection in Cleveland. J. H. McHenry, Cleveland.
99 *Diagnosis and Treatment of Brain Tumor* (continued). A. Peskind, Cleveland.
100 Nitrous Oxid and Oxygen Anesthesia in Comparison with Ether Anesthesia. G. W. Crile, Cleveland.

Journal Cutaneous Diseases, New York

July

101 Pseudoxanthomatous Lymphangioma. W. S. Gotthell, New York.
102 Principles and Clinical Application of the Wassermann Reaction. H. F. Swift, New York.
103 *Eruptions Occurring after Abdominal Operations. F. J. Shepherd, Montreal.
104 The *Spirochæta Pallida:* Its Easy Demonstrability; Brief Review of its History. U. J. Wile, New York.

103. **Eruptions after Abdominal Operations.**—Shepherd, in an attempt to discover the cause of the skin eruptions seen so often after abdominal operations, found that these occurred most often in patients who were given an enema of soap suds made from common yellow soap, but if castile soap were substituted no eruption followed. This was corroborated by the fact that in exchanging the yellow for the castile soap in other patients who had these eruptions it was found that the yellow soap produced rashes, whereas the castile soap did not. It was then found that the cheap and common yellow soap contained a considerable quantity of resin, and to this Shepherd believes we must attribute the cause of many of the rashes seen after abdominal section.

Journal Advanced Therapeutics, New York

July

105 Association of Altered Metabolism with Circulatory Changes and Treatment. B. S. Price, New York.
106 *Electricity in the Relief of Pain. F. H. Humphris, London, Eng.
107 So-Called Chronic Rheumatism or Septic Arthritis, Caused by Urethral Strictures and Various Post-Strictural Infections. J W. Torbett, Marlin, Tex.
108 Morton Wave Current in Diseases of the Prostate Gland. B. H. Jackson, Scranton, Pa.
109 All too Frequent Cytolysis of Cancer. J. A. Riviere, Paris.

106. Abstracted in The Journal, Nov. 28, 1909, p. 1891.

Western Medical Review, Omaha

June

110 Progress of Medicine. L. M. Shaw, Osceola, Neb.
111 Function of the Laboratory in Clinical Medicine. A. D. Dunn, Omaha.
112 Centennial Anniversary of the First Ovariotomy. P. Findley, Omaha.

Bulletin Johns Hopkins Hospital, Baltimore

July

113 *Pellagra in Maryland. W. S. Thayer, Baltimore.
114 *Osteoplastic Carcinoma of the Prostate. G. Blumer, New Haven, Conn.
115 *Relative Aortic Incompetency of Muscular Origin. J. M. Anders, Philadelphia.
116 Old-Time Medical Education. J. J. Walsh, New York.

113. **Pellagra.**—Thayer reports a case of pellagra seen in the vicinity of Baltimore which presented several peculiar features which, taken in connection with the impalpability of the thyroid and the dryness of the skin suggested the possibility of hypothyroidism. It was accordingly determined to start treatment with thyroid, beginning with three 2-gr. (0.13 gm.) doses of desiccated thyroids a day. The change in the patient's condition was immediate and remarkable. On the very

day that the treatment was begun the patient passed for the first time a quiet night. For several weeks this dose was continued, and then for several months the patient took from 4 to 5 grains (0.26-0.32 gm.) daily. The improvement was rapid, the mental, cutaneous and gastrointestinal symptoms entirely cleared up, and since then the patient has remained well. She has found that whenever she has tried to stop the use of the thyroid, of which she is now taking 2 grains (0.16) a day, a sense of heaviness and dulness has returned, so that Thayer is convinced of the necessity of continuing the treatment. From the effects of the thyroid, together with the symptoms above referred to, Thayer suggests that it is not impossible that this is an instance of hyperthyroidism; the mental symptoms might well be associated with this condition; but the cutaneous, the buccal, the gastrointestinal manifestations were so striking that it was difficult to discard the suspicion of the existence of pellagra.

114. Osteoplastic Carcinoma of Prostate.—Blumer summarizes his paper as follows:

1. Carcinoma of the prostate gives rise to metastases in the bones in a much larger proportion of cases than any other form of carcinoma; probably in at least two-thirds of the patients in whom the disease is allowed to run an unobstructed course.
2. The clinically apparent bone metastases may be single. If occurring in the long or flat bones they may be taken for primary bone tumors and removed as such. If occurring in the vertebræ they frequently give rise to spastic paraplegia.
3. There is a diffuse form of bony involvement without evident deformity of bones in which intense pain in the bones, often associated with spinal stiffness and accompanied by the general signs of a malignant growth, is the prominent symptom.
4. Symptoms pointing to the urinary tract as the original site of the disease are lacking in perhaps one-third of the patients.
5. In all instances where a male patient, especially one over sixty, presents himself with an apparently primary tumor of a bone or with signs of paraplegia, or with bone pains of obscure origin, a complete examination of the urinary system is indicated, even though no symptoms of urinary disorder be present. Needless to say, the mammary gland, the thyroid, and the region of the adrenals should also be explored.
6. The high percentage of cases of bone metastasis in this form of tumor, and the relative rapidity with which it may take place, make it imperative that carcinoma of the prostate should be recognized and removed at as early a date as possible.

115. Relative Aortic Insufficiency.—Anders places the cases of muscular relative incompetency at the aortic orifice in three well-defined divisions: (a) cases of muscular and nervous origin that supervene in the course of fibrous myocarditis and other less serious conditions of the myocardium, independently of valvulitis or advanced organic changes in the aorta; (b) cases secondary to chronic valvulitis affecting the mitral segments with failure of the left ventricle, and (c) cases occurring in the course of or following acute infective diseases due to the action of the toxins on the myocardium. Cases of purely *nervous* origin may also be encountered occasionally. He emphasizes the fact that functional incompetency of the aortic segments due to dilatation of the left ventricle is not sufficiently recognized.

Journal New Mexico Medical Society, Albuquerque

July

117 Milk Sickness. G. K. Angle, Albuquerque.
118 Alcoholism—Acute and Chronic. W. S. McCormick, Albuquerque.
119 Surgical Empyema. D. H. Carns, Albuquerque.
120 The Meddlesome Doctor. J. H. Bradshaw, Orange, N. J.
121 Trachoma. F. H. Tull, Albuquerque.
122 *Sterilization of Criminals and Other Defectives by Vasectomy. W. T. Belfield, Chicago.
123 Traumatic Epilepsy of 24 Years' Standing Relieved by Operation. M. K. Wylder, Albuquerque.

122. Published in the *Chicago Medical Recorder*, and abstracted in THE JOURNAL, April 10, 1909, p. 1211.

Providence Medical Journal

July

124 *Medical Progress During the Past Thirty Years. F. B. Fuller, Pawtucket, R. I.
125 Appendicitis Complicating Pregnancy. C. O. Cooke, Providence.
126 Infant Feeding. W. H. Jordan, Providence.

124. Abstracted in THE JOURNAL, July 10, 1909, p. 138.

Military Surgeon, Washington, D. C.

July

127 Career of the Army Surgeon. R. Park, Buffalo.
128 Diseases of the Soldier and their Prophylaxis. E. L. Munson, U. S. Army.
129 Account of the Ravages of Scurvy in Lord Anson's Fleet During a Voyage Around the World, 1740-1744: Notes Concerning British Naval Hygiene at that Time. A. Farenholt, U. S. Navy.
130 Is the Poor Physical Development of Southern Recruits Due to Uncinariasis? W. P. Chamberlain, Jackson Barracks, La.
131 Biographic Sketch of Azel Ames, M.D. J. M. Swan, Philadelphia.
132 Diseases and Injuries of Ear Occurring Among Troops During War or Peace Maneuvers—Their Prevention and Treatment. J. J. Kyle, Indianapolis.
133 Penetrating Injuries of the Brain—Recovery. W. A. Gills, Richmond, Va.

California State Journal of Medicine, San Francisco

July

134 Melancholia and Other Manifestations of the Depression Psychosis. C. Quinan, San Francisco.
135 Backache (continued). C. M. Cooper, San Francisco.
136 Fallacies in the Weaning of Infants. A. Brown, San Francisco.
137 Fat as a Disturbing Factor in Infant Feeding. L. Porter, San Francisco.
138 Arthritis Deformans. L. D. Mead, San Francisco.
139 Passive Motion. S. J. Hunkin, San Francisco.
140 *The Malaria Zone.* D. F. Ray, Stockton.
141 Local Anesthesia. V. G. Clark, San Diego.
142 Our State Board Examination. H. D'A. Power, San Francisco.
143 Demonstration of Enlarged Spleen. W. F. McNutt, San Francisco.
144 Pulmonary Tuberculosis as Affected by Certain Other Diseases. J. C. King, Banning.

Mississippi Medical Monthly, Vicksburg

July

145 Prophylaxis of Insanity. J. M. Buchanan, Meridian, Miss.
146 Use and Abuse of the Nitrites. P. W. Rowland, Oxford, Miss.
147 Nervous Reflexes and Complications Due to Pregnancy: Their Causes and Treatment. I. H. C. Cook, Hattiesburg.

Louisville Monthly Journal of Medicine and Surgery

July

148 Disease of the Labyrinth. K. L. Stoll, Cincinnati.
149 Psoriasis. J. V. Shoemaker, Philadelphia.
150 Anesthesia, with Report of 2,000 Administrations. T. K. Van Zandt, Louisville.
151 Value of Chlorin in the Production of Immunity against Tuberculosis. F. C. Wilson, Louisville.

Southern California Practitioner, Los Angeles

June

152 Obstruction of the Bowels. T. A. Stoddard, Santa Barbara.
153 Fraternal Insurance. C. W. Pierce, Los Angeles.
154 Plea for Conservative Treatment of the Uterus and Adnexa. L. D. Johnson, Whittier.
155 Rubeola, Rubella, and Scarlatina: Prophylaxis and Treatment of Typical Cases. S. A. Adams, Los Angeles.
156 Centralization of Power—A Necessity in Health Work and Sanitation. D. J. Frick, Los Angeles.
157 Need of Fumigation of Second-Hand Clothing and Articles. L. M. Powers, Los Angeles.

Philippine Journal of Science, Manila

February

158 *Atoxyl in Treatment of Malaria. J. J. Vassal, Nhatrang, Annam.
159 Methods of Studying the Structure of the Central Nervous System. R. B. Bean, Manila.
160 Dengue in Indo China: Epidemic on Board *Manche.* J. J. Vassal and A. Brochet, Nhatrang, Annam.
161 Filtration Experiments on the Virus of Cattle Plague with Chamberland Filters "F." E. H. Ruediger, Manila.
162 *Suppression of a Cholera Epidemic in Manila. A. McLaughlin, U. S. Public Health and Marine-Hospital Service.

158. Atoxyl in Malaria.—Atoxyl used alone, according to Vassal, does not exercise a specific action in malaria. Associated with quinin, it is capable of bringing about a rapid improvement in health and of hastening convalescence. In cachexia and chronic forms of malaria, quinin with atoxyl appears to be more efficacious than quinin alone. Atoxyl in large doses is sometimes borne with difficulty and may even give rise to accidents.

162. This article appeared in full in THE JOURNAL, April 10, 1909, p. 1153.

Journal Oklahoma State Medical Association, Muskogee

June

163 State Medicine. J. M. McComas, Elk City.
164 *Cancer of the Female Breast. J. N. Jackson, Kansas City, Mo.
165 Ileocolitis or Dysentery. H. M. Williams, Wellston.

164. Cancer of Breast.—Jackson emphasizes the fact that at least 90 to 95 per cent. of all tumors of the breast are malignant, and no possible intelligence can proclaim which of the remaining 10 per cent. will remain benign. There is no known cure for any tumor of the breast, benign or malignant, except through surgical removal. From 25 to 50 per cent. of cases of breast cancer are permanently cured by radical surgical removal. With early diagnosis this could be raised to 80 per cent. Every tumor of the breast, therefore, should be considered malignant and treated as such at the very first moment of its detection, unless incision has proved it benign, in which instance, local excision should at least be insisted on. To trifle with tumors of the breast is, therefore, practically nothing short of criminal.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 3

1 Advisability and Method of Operating in Acute Inflammation of the Appendix from the Third to Sixth Day. G. M. Moullin.
2 *Electrical Reactions of Bacteria Applied to the Detection of Tubercle Bacilli in Urine by Means of a Current. C. Russ.
3 The Opsonic Test. F. R. Walters.
4 *Multiple Aneurisms of the Aortic Arch and Thoracic Aorta. H. E. Jones and T. H. C. Benians.
5 *Routine Use, by the Open Method, of a Mixture of Chloroform and Ether. F. W. Hewitt and J. Blumfeld.
6 **High-Frequency Currents and Their Medical Application.* C. F. Bailey.
7 Multiple Intracranial Tumors with Involvement of Both Auditory Nerves. G. N. Biggs.
8 New Method for Attempting to Secure Sphincteric Control after Colostomy. C. Ryall.
9 Unusual Case of Extradural (Peri-Sinus) Abscess of Otitic Origin and Its Relation to Melancholic Stupor. J. A. Jones.
10 Abscess of the Pancreas. S. S. Pringle.
11 Chronic Middle-Ear Suppuration with Involvement of the Labyrinth. M. Yearsley.

2. Electrical Reactions of Bacteria.—By much experimentation Russ found that certain bacteria, under the influence of a suitable current, congregate at one or other electrode. The congregation varies with the nature of the electrolyte, and is probably due to an affinity between the products of electrolysis and the bacteria. It occurs with killed as well as with living bacteria. The congregation by electrical currents affords a means of collection and examination, and was found of greater detective capacity in certain of the experiments undertaken than was the centrifuge. The differences in behavior of various bacteria are such as to suggest the possibility of utilizing the method for purposes of specific discrimination, but in this particular the data hitherto obtained are insufficient to warrant definite statements.

4. Multiple Aneurisms of Aorta.—The patient in this instance complained of: 1. A pulsating swelling over the inner end of the left clavicle of about the size of a small hen's egg. This swelling was first noticed three months previously. It was very painful and tender and rapidly increasing in size. 2. Slight cough and shortness of breath. 3. A coldness and numbness of the extremities, especially the hands and feet, which he could not keep warm. 4. Hemoptysis; small clots occasionally; no further large quantity was expectorated after the hemoptysis at the commencement of the illness. 5. Inability to use his right eye. This was found to h en pres-
ent since birth and was on account of a "con ptosis."
The tumor had expansile pulsation, was dull per
cussion, and gave a sense of fluctuation. Th
was slightly reddened. The area of cardiac
slightly increased, but resonance was present be
the dulness over the tumor. The sounds
Anemia was marked and the su i veins
part of the thorax were slightly d The p
carotid pulse was 108. No pulsa
wrist; the right temporal was pa
carotid pulses were markedly un
tracheal tugging was present, n
paralysis. The voice was somew
was not "brassy." No glands we
were rather cold. There were c
apices, while at the right apex t
chial in character and at one spot
present. There were proptosis a
eye, but the eye movements were
but unequal, and reacted both to
The fundi and media were normal.
sign of past syphilis. The patient

and had never done any really hard manual labor. The temperature was raised to 100° F. at night. The urine was normal.

Skiagrams taken on admission showed three distinct bulgings of the thoracic aorta: (1) in the descending aorta; (2) at the junction of the transverse and descending arch; and (3) of the ascending arch near the spot where the right innominate artery takes its origin.

The interesting features of the case are: 1. The absence of any of the usual determining circumstances of aortic aneurism—viz., syphilis, alcohol, hard work, etc., or of any evidence of a long-sustained high blood pressure. 2. The extraordinary tendency for clotting and attempts at spontaneous cure. Even when rupture took place and oozing commenced this stopped for a few days, a large clot forming, until the final more extensive rupture proved immediately fatal. 3. The old history of hemoptysis, evidently one of the dilatations (probably that of the descending arch) ulcerating into the trachea two years previously. The ulceration on the trachea was seen postmortem, and, although old tubercle was present at the left apex, no extensive tuberculous process had invaded the lung, making it practically certain that the large sudden hemoptysis was of aneurismal origin. The spontaneous cure of the aneurism of the right side with cessation of symptoms followed two and a half years later by it again becoming patent after the appearance of the larger and more rapidly growing dilatation of the left side. 5. The multiplicity of the dilatations.

5. Chloroform and Ether Anesthesia.—The mixture employed by Hewitt and Blumfeld consists of 2 parts by volume of chloroform and 3 parts by volume of ether. The mask employed is essentially a Skinner's mask and consists of a wire frame, over which is stretched a single layer of thin flannel. The mask thus formed presents an oval opening 5 inches by 3 inches and is capable of close adaptation to the face. The vault of the mask is high enough not to touch the nose when its rim rests on the face. The size of the mask and the material with which it is covered are important details. In using the mixture a gradual process is followed. The mask is applied to the face, and, after a few breaths, the mixture is added, a few drops at a time. A regulating drop bottle is used capable of delivering the mixture in isolated drops, in a rapid series of drops, or in a continuous stream. During the first two minutes the mixture is poured on the mask in such small quantities at a time that there is never more than a quarter of the mask moist. From this time it is added more freely until, roughly speaking, in the case of men the whole surface of the mask, in the case of women three-quarters of the surface, and in the case of children one-half of the surface, is kept moist with the liquid. As a rule, at least four minutes pass between the beginning of the administration and the moment when the maximum quantity to be used is on the mask.

The cases in which the method has been employed include all the graver abdominal procedures. In age, patients have ranged from the infant of 14 months to persons over 80 years of age. Several patients were markedly alcoholic, others were
thmatic and orthopneic; one patient was suffering from
umonia, and in this case oxygen was simultaneously ad-
tered through a tube passing through the mask. In a
of hospital cases the average amount of the mixture
d was one ounce in 14 minutes; the least used was
ounce in 22 minutes (feeble infant); and the most
and a quarter ounces in 30 minutes (fat alco-
Recovery takes place rapidly without any
led, of course, that the patient has been
In several cases there was vomiting once
of consciousness. In practically all
urs after operation, complete freedom
od has been employed successfully in

ts.—Bailey directs attention to the
imals and plants, observations on
on the individual experimentees'
there are four marked effects
complicated by chemical effects.
(1) Increased cell activity, in-

creased metabolism; (2) return of a locally inflamed tissue to its normal; (3) either general vascular dilatation or contraction, according to the particular method used; and (4) "inhibition," diminished sensory or motor excitabilty. So that where any of these effects is desired and where the remaining effects are not prejudicial, or can be very much diminished or abolished, high-frequency treatment may be of real value, and for these reasons has a prospect of considerable therapeutic use in the future.

British Medical Journal, London

July 5

12 Tedious Recovery from Illnesses. Sir D. Duckworth.
13 *Surgical Treatment of Rheumatoid Group of Joint Affections. R. Jones.
14 Arthrotomy of Knee. C. B. Lockwood.
15 Aspects of Life-Insurance from Standpoint of the Medical Examiner and the Agent. A. G. Gullan.
16 Osteitis Deformans. R. M. White.
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Clinical Journal, London

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Journal of Obstetrics and Gynecology, London

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Journal of Tropical Medicine and Hygiene

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Archives des Maladies du Cœur, etc., Paris

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Lyon Chirurgical

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Presse Médicale, Paris

June 19, XVII, No. 49, pp. 441-448

40 Experimental Study of Surgery of the Stomach. (Contribution expérimentale à la chirurgie de l'estomac.) A. Frouin.

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43 Nodular Erythema and Tuberculosis. (Erythème noueux et tuberculose.) A. -B. Marfan.

42. Efficient Official Disinfection.—Comby recently stated that the contagious diseases at Paris do not seem to be kept under control now any better than of old, and the official disinfection service actually does more harm than good, as it merely lulls the people into a sense of false security. Courmont takes exception to his statement, declaring that the trouble is that the municipal disinfection is not properly carried out, as it is not based on the true principle of efficient disinfection, which is to watch over the patient from the onset and during the course of the disease and prevent the dissemination of contagion. He cites his own experiences in the department of the Rhône, where the disinfection service is admirably organized and efficiently arrests contagion. The main point is for the service to be notified of the case of con-of breast cancer are permanently cured by radical surgical removal. With early diagnosis this could be raised to 80 per cent. Every tumor of the breast, therefore, should be considered malignant and treated as such at the very first moment of its detection, unless incision has proved it benign, in which instance, local excision should at least be insisted on. To trifle with tumors of the breast is, therefore, practically nothing short of criminal.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 3

1 Advisability and Method of Operating in Acute Inflammation of the Appendix from the Third to Sixth Day. G. M. Moullin.
2 *Electrical Reactions of Bacteria Applied to the Detection of Tubercle Bacilli in Urine by Means of a Current. C. Russ.
3 The Opsonic Test. F. R. Walters.
4 *Multiple Aneurisms of the Aortic Arch and Thoracic Aorta. H. E. Jones and T. H. C. Benians.
5 *Routine Use, by the Open Method, of a Mixture of Chloroform and Ether. F. W. Hewitt and J. Blumfeld.
6 *High-Frequency Currents and Their Medical Application. C. F. Bailey.
7 Multiple Intracranial Tumors with Involvement of Both Auditory Nerves. G. N. Biggs.
8 New Method for Attempting to Secure Sphincteric Control after Colostomy. C. Ryall.
9 Unusual Case of Extradural (Peri-Sinus) Abscess of Otitic Origin and its Relation to Melancholic Stupor. J. A. Jones.
10 Abscess of the Pancreas. S. S. Pringle.
11 Chronic Middle-Ear Suppuration with Involvement of the Labyrinth. M. Yearsley.

2. **Electrical Reactions of Bacteria.**—By much experimentation Russ found that certain bacteria, under the influence of a suitable current, congregate at one or other electrode. The congregation varies with the nature of the electrolyte, and is probably due to an affinity between the products of electrolysis and the bacteria. It occurs with killed as well as with living bacteria. The congregation by electrical currents affords a means of collection and examination, and was found of greater detective capacity in certain of the experiments undertaken than was the centrifuge. The differences in behavior of various bacteria are such as to suggest the possibility of utilizing the method for purposes of specific discrimination, but in this particular the data hitherto obtained are insufficient to warrant definite statements.

4. **Multiple Aneurisms of Aorta.**- The patient in this instance complained of: 1. A pulsating swelling over the inner end of the left clavicle of about the size of a small hen's egg. This swelling was first noticed three months previously. It was very painful and tender and rapidly increasing in size. 2. Slight cough and shortness of breath. 3. A coldness and numbness of the extremities, especially the hands and feet, which he could not keep warm. 4. Hemoptysis;• small clots occasionally; no further large quantity was expectorated after the hemoptysis at the commencement of the illness. 5. Inability to use his right eye. This was found to have been present since birth and was on account of a "congenital ptosis." The tumor had expansile pulsation, was dull on light percussion, and gave a sense of fluctuation. The skin over it was slightly reddened. The area of cardiac dulness was slightly increased, but resonance was present between this and the dulness over the tumor. The heart sounds were normal. Anemia was marked and the superficial veins of the upper part of the thorax were slightly dilated. The pressure of the carotid pulse was 108. No pulsation was palpable at either wrist; the right temporal was palpable, but not the left. The carotid pulses were markedly unequal and asynchronous; no tracheal tugging was present, nor was there any laryngeal paralysis. The voice was somewhat hoarse, but the cough was not "brassy." No glands were felt. The hands and feet were rather cold. There were crepitations present at both apices, while at the right apex the breath sounds were bronchial in character and at one spot whispering pectoriloquy was present. There were proptosis and divergence of the right eye, but the eye movements were free. The pupils were small, but unequal, and reacted both to light and accommodation. The fundi and media were normal. There was no history or sign of past syphilis. The patient was extremely temperate and had never done any really hard manual labor. The temperature was raised to 100° F. at night. The urine was normal.

Skiagrams taken on admission showed three distinct bulgings of the thoracic aorta: (1) in the descending aorta; (2) at the junction of the transverse and descending arch; and (3) of the ascending arch near the spot where the right innominate artery takes its origin.

The interesting features of the case are: 1. The absence of any of the usual determining circumstances of aortic aneurism—viz., syphilis, alcohol, hard work, etc., or of any evidence of a long-sustained high blood pressure. 2. The extraordinary tendency for clotting and attempts at spontaneous cure. Even when rupture took place and oozing commenced this stopped for a few days, a large clot forming, until the final more extensive rupture proved immediately fatal. 3. The old history of hemoptysis, evidently one of the dilatations (probably that of the descending arch) ulcerating into the trachea two years previously. The ulceration on the trachea was seen postmortem, and, although old tubercle was present at the left apex, no extensive tuberculous process had invaded the lung, making it practically certain that the large sudden hemoptysis was of aneurismal origin. The spontaneous cure of the aneurism of the right side with cessation of symptoms followed two and a half years later by it again becoming patent after the appearance of the larger and more rapidly growing dilatation of the left side. 5. The multiplicity of the dilatations.

5. **Chloroform and Ether Anesthesia.**—The mixture employed by Hewitt and Blumfeld consists of 2 parts by volume of chloroform and 3 parts by volume of ether. The mask employed is essentially a Skinner's mask and consists of a wire frame, over which is stretched a single layer of thin flannel. The mask thus formed presents an oval opening 5 inches by 3 inches and is capable of close adaptation to the face. The vault of the mask is high enough not to touch the nose when its rim rests on the face. The size of the mask and the material with which it is covered are important details. In using the mixture a gradual process is followed. The mask is applied to the face, and, after a few breaths, the mixture is added, a few drops at a time. A regulating drop bottle is used capable of delivering the mixture in isolated drops, in a rapid series of drops, or in a continuous stream. During the first two minutes the mixture is poured on the mask in such small quantities at a time that there is never more than a quarter of the mask moist. From this time it is added more freely until, roughly speaking, in the case of men the whole surface of the mask, in the case of women three-quarters of the surface, and in the case of children one-half of the surface, is kept moist with the liquid. As a rule, at least four minutes pass between the beginning of the administration and the moment when the maximum quantity to be used is on the mask.

The cases in which the method has been employed include all the graver abdominal procedures. In age, patients have ranged from the infant of 14 months to persons over 80 years of age. Several patients were markedly alcoholic, others were asthmatic and orthopneic; one patient was suffering from pneumonia, and in this case oxygen was simultaneously administered through a tube passing through the mask. In a series of hospital cases the average amount of the mixture consumed was one ounce in 14 minutes; the least used was half an ounce in 22 minutes (feeble infant); and the most used was three and a quarter ounces in 30 minutes (fat alcoholic woman). Recovery takes place rapidly without any after-effects, provided, of course, that the patient has been properly prepared. In several cases there was vomiting once or more after recovery of consciousness. In practically all cases there was, 24 hours after operation, complete freedom from nausea. The method has been employed successfully in over 360 cases.

6. **High-Frequency Currents.**—Bailey directs attention to the fact that experiments on animals and plants, observations on human beings not founded on the individual experimentees' own statements, showed that there are four marked effects of electric energy produced, uncomplicated by chemical effects, by high frequency currents: (1) *Increased cell activity,* in-

creased metabolism; (2) return of a locally inflamed tissue to its normal; (3) either general vascular dilatation or contraction, according to the particular method used; and (4) "inhibition," diminished sensory or motor excitability. So that where any of these effects is desired and where the remaining effects are not prejudicial, or can be very much diminished or abolished, high-frequency treatment may be of real value, and for these reasons has a prospect of considerable therapeutic use in the future.

British Medical Journal, London

July 5

12 Tedious Recovery from Illnesses. Sir D. Duckworth.
13 *Surgical Treatment of Rheumatoid Group of Joint Affections. R. Jones.
14 Arthrotomy of Knee. C. B. Lockwood.
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Revue de Médecine, Paris

May, XXIX, No. 5, pp. 337-424

44 *Progressive Myopathic Atrophy. L. Landouzy and L. Lortat-Jacob.
45 *The Meninges in Scarlet Fever. (Infection méningée, réaction méningée et méningites scarlatineuses.) R. Benard.
46 *Pathogenesis and Symptomatic Importance of Paralysis of the Left Laryngeal Recurrent Nerve. II. (Paralysie récurentielle.) E. Guder and R. Dufour.

44. An article on this subject by the same author appeared in the *Bulletin de l'Académie de Médecine*, Feb. 23, 1909, and was abstracted in THE JOURNAL, April 3, 1909, page 1147.

45. **The Meninges in Scarlet Fever.**—Benard says that a simple reaction on the part of the meninges generally subsides, but the hemorrhagic and suppurative forms have been invariably fatal in the cases on record. Lumbar puncture is able to differentiate a scarlatinal meningitis when the symptoms may indicate either an incipient complicating meningitis or a malignant form of the scarlet fever. Repeated lumbar puncture may have a curative action in case of a simple reaction and may aid, in connection with warm baths, in the purulent meningitis. A few rare cases are on record of recovery from streptococcus meningitis, but he knows of none of recovery from scarlatinal meningitis. He reviews the literature on the subject, remarking that in the majority of cases the scarlatinal meningitis was secondary to otitis.

46. **Paralysis of Left Recurrent Laryngeal Nerve.**—Guder and Dufour report 79 cases and discuss the various etiology. In 4 instances the paralysis was the result of compression from a cancer and in a number of others of compression from tuberculous glands. In 2 cases no cause could be discovered for the paralysis except mitral stenosis, but in many such cases in the literature their coexistence, they think, was probably merely a coincidence, a sufficient other cause for the paralysis having been discovered at autopsy. Aortitis or aneurism was evidently responsible in 16 of their cases. In 4 the paralysis occurred in connection with tabes, in 7 with goiter, in 11 with operations for goiter, and in only 17 did it prove impossible to trace the paralysis to its cause, although a long preceding infectious disease was possibly responsible in some of them.

Archiv für Kinderheilkunde, Stuttgart

L, pp. 1-476. Last indexed April 17, p. 1298

47 Fifty Years of the *Archiv*. A. Baginsky.
48 *Cutaneous Tuberculin Reaction. (Wert der Pirquetschen Reaction.) S. Müller.
49 *Pathogenesis of (Darm-blutungen im
50 Congenital Hear geborenen Herzfehler.) S. Bach.
51 Deviation of Complement in Scarlet Fever. (Ueber Complementablenkung bei Scharlach.) P. Sommerfeld.
52 Injury of Infants with Gastrointestinal Disturbances from Fat in Food. (Zur Theorie der Schädigung magendarmkranker Säuglinge durch fetthaltige Ernährung.) J. Neumann.
53 Acetonuria in Scarlet Fever. F. Proskauer.
54 Primary Intestinal Tuberculosis in Children, with Special Regard to its Relations with Primary Tuberculosis of the Respiratory Apparatus. L. Mendelsohn.
55 Infant Feeding. (Ergebnisse auf dem Gebiete der Säuglingsernährung in den letzten Jahren.) P. Biedert.
56 Pyloric Spasm and Fat in the Diet. (Pyloruskrampf und Fett in der Nahrung.) Id.
57 Liver Cysts in Children. (Lebercysten im Kindesalter.) W. P. Shukowsky.
58 Blue Disease from Congenital Anomalies. (Morbus caeruleus [Blausucht] bedingt durch eine grosse Reihe angeborener Anomalien des Herzens und anderer Organe.) F. Theodor.
59 Leukemia in Boy of Nine. (Bemerkenswerter Fall von Leukämie bei einen 9jährigen Knaben.) P. Kränzle and H. Rehn.
60 Chronic Appendicitis in Children. (Appendicite chronique chez les enfants.) J. Comby.
61 *Danger of Transmission of Syphilis in Modern Infant Asylums. J. Cassel.
62 *Statistics in Regard to Inherited Syphilis. Id.
63 **Importance of Serodiagnosis for Congenital Syphilis.* (Bedeutung der Serumdiagnostik für die congenitale Lues.) M. Joseph.
64 Nocturnal Motor Neuroses of the Head in Children. (Die nächtlichen Kopfbewegungen der Kinder.) C. Stamm.
65 Two Cases of Infantile Scurvy. (Barlowsche Krankheit.) L. Concetti.
66 Serodiagnosis of Experimental Hyperthyroidism. (Begriff und Methode der bei der Diagnose des experimentellen Hyperthyreoidismus angewandten Complementablenkung.) F. Valagussa.
67 Chemistry of Children's Urine on Diet Rich or Poor in Albumin. (Acidität, Ammoniak, Phosphorsäure und Gesamtstickstoff im Kinderharn bei eiweissarmer und eiweissreicher Ernährung.) A. Vozarik.
68 Origin of Congenital Stridor. (Ueber eine anatomische und klinische bemerkenswerte Anomalie des Laryngotrachealrohres nebst kritischen Bemerkungen über die Aetiologie des Stridor laryngis congenitus.) J. Trumpp.
69 *Appendicitis in Children. (Appendicitis der Kinder.) G. Alsberg.
70 *Dosage of Drugs at Different Periods of Growth. (Dosierung der Arzneimittel in den verschiedenen Wachstumsperioden.) W. Troitzky.
71 Research on Pertussis. (Keuchhustenuntersuchungen.) G. Arnheim.
72 Enlargement of Spleen in Typhoid. (Milztumor im Typhus abdominalis.) A. Solaro.
73 *Diagnosis of Tuberculosis of the Bronchial Glands in Children. (Diagnosestellung der Bronchialdrüsentuberculose im Kindesalter.) O. Cozzolino.
74 Bacteriology of the Blood in Digestive Disturbances in Infants. (Bacteriologische Blutbefunde bei Ernährungskrankheiten im Säuglingsalter.) A. Caan.
75 Amount of Nourishment Required for Artificially Fed Infants. (Nahrungsbedarf künstlich ernährter Säuglinge.) K. Oppenheimer.
76 Determination of Complement in Child's Serum. (Complementbestimmungen des kindlichen Serums.) H. Koch.
77 Motor Function of the Stomach. (Die motorische Function des Magens.) H. Roeder.
78 Relations between Weight and Nursing Capacity in Working Women. (Beziehungen zwischen Körpergewicht und Stillen bei der Arbeiterfrau.) G. Tugendreich.

48. **Cutaneous Tuberculin Test.**—Müller gives the findings in 497 children tested with tuberculin according to von Pirquet's technic, described in THE JOURNAL, Feb. 27, 1909, page 675. The findings sustain the value of this test in the dubious cases and its reliabilty. In 2 of the children the clinical diagnosis of tuberculosis was denied by the findings of the test, and it was supposed that the test had failed in these instances, but autopsy revealed another origin for the symptoms and not a trace of tuberculosis could be discovered.

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Archiv für Verdauungs-Krankheiten, Berlin

June, XV, No. 3, pp. 325-440

79 *"Potato Diet" in Treatment of Obesity. (Zur Methodik der Entfettungskuren.) G. Rosenfeld.
80 *Treatment of Gastric Ulcer. (Behandlung des Magengeschwürs.) E. Mayerle.
81 *Pathology and Therapy of Mucomembranous Colitis. D. B. King.
82 *Periodical Stomach Disturbances. (Zu den periodischen Magenkrankheiten.) W. Büttner.
83 Examination of Entire Pharynx and Adjoining Regions. (Ortho-Hypopharyngoskopie.) F. Schilling.
84 *Bacillus longus* in the Stools in Two Cases. (Vorkommen "langer Bazillen" im Stuhl.) F. A. Schaly.

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tagious disease as soon as possible, by telephone, not waiting for the mail. Then, also as rapidly as possible, by automobile, the disinfecting force repairs at once to the case, bringing bags, disinfectants, printed instructions, etc., and aiding the physician in controlling the contagion at this most critical moment. The first duty of the service is to rush to the patient and surround him with prophylactic measures; then, when the disease is over, to sterilize the contaminated bedding and clothing, and, thirdly, to disinfect the apartment. The disinfecting service is in charge of a trained and well-paid specialist, free from other duties, and he is obliged to supervise the disinfection, whether done by his force or by outsiders. A portable oven is most convenient for sterilization of bedding, etc., in country districts. Courmont does not regard the scarlet fever scales as contagious in themselves, although they may be the vehicle of the virus. He adds that measles should be dropped from the list of diseases requiring notification, as the contagion occurs before differentiation and the germ is not long-lived or resistant. The ideal prophylaxis is, of course, he says, for the patient to be taken at once to the contagious hospital as soon as the disease is diagnosed, and this is the rule in the Scandinavian countries, where rich and poor alike go at once to the hospital under these conditions. Until this becomes the rule in other countries the reliance must be on the municipal disinfection service. In conclusion he emphasizes anew that in hygiene every useless measure is dangerous, and that all such prophylactic measures should be reduced to the indispensable minimum.

Revue de Médecine, Paris

May, XXIX, No. 5, pp. 337-424

44 *Progressive Myopathic Atrophy. L. Landouzy and L. Lortat-Jacob.
45 *The Meninges in Scarlet Fever. (Infection méningée, réaction méningée et méningites scarlatineuses.) R. Benard.
46 *Pathogenesis and Symptomatic Importance of Paralysis of the Left Laryngeal Recurrent Nerve. II. (Paralysie récurrentielle.) E. Guder and R. Dufour.

44. An article on this subject by the same author appeared in the *Bulletin de l'Académie de Médecine*, Feb. 23, 1909, and was abstracted in The Journal, April 3, 1909, page 1147.

45. **The Meninges in Scarlet Fever.**—Benard says that a simple reaction on the part of the meninges generally subsides, but the hemorrhagic and suppurative forms have been invariably fatal in the cases on record. Lumbar puncture is able to differentiate a scarlatinal meningitis when the symptoms may indicate either an incipient complicating meningitis or a malignant form of the scarlet fever. Repeated lumbar puncture may have a curative action in case of a simple reaction and may aid, in connection with warm baths, in the purulent meningitis. A few rare cases are on record of recovery from streptococcus meningitis, but he knows of none of recovery from scarlatinal meningitis. He reviews the literature on the subject, remarking that in the majority of cases the scarlatinal meningitis was secondary to otitis.

46. **Paralysis of Left Recurrent Laryngeal Nerve.**—Guder and Dufour report 79 cases and discuss the various etiology. In 4 instances the paralysis was the result of compression from a cancer and in a number of others of compression from tuberculous glands. In 2 cases no cause could be discovered for the paralysis except mitral stenosis, but in many such cases in the literature their coexistence, they think, was probably merely a coincidence, a sufficient other cause for the paralysis having been discovered at autopsy. Aortitis or aneurism was evidently responsible in 16 of their cases. In 4 the paralysis occurred in connection with tabes, in 7 with goiter, in 11 with operations for goiter, and in only 17 did it prove impossible to trace the paralysis to its cause, although a long preceding infectious disease was possibly responsible in some of them.

Archiv für Kinderheilkunde, Stuttgart

L, pp. 1-476. Last indexed April 17, p. 1298

47 Fifty Years of the *Archiv*. A. Baginsky.
48 *Cutaneous Tuberculin Reaction. (Wert der Pirquetschen Reaction.) S. Müller.
49 *Pathogenesis of [illegible] (Darmblutungen im [illegible]
50 Congenital Hear[illegible] geborenen Herzfehler.) S. Bach.
51 Deviation of Complement in Scarlet Fever. (Ueber Complementablenkung bei Scharlach.) P. Sommerfeld.
52 Injury of Infants with Gastrointes[illegible] Fat in Food. (Zur Theorie der [illegible] kranker Säuglinge durch fetthaltig[illegible] mann.
53 Acetonuria in Scarlet Fever. F. Proskauer.
54 Primary Intestinal Tuberculosis in Children, with Special Regard to its Relations with Primary Tuberculosis of the Respiratory Apparatus. L. Mendelsohn.
55 Infant Feeding. (Ergebnisse auf dem Gebiete der Säuglingsernährung in den letzten Jahren.) P. Biedert.
56 Pyloric Spasm and Fat in the Diet. (Pyloruskrampf und Fett in der Nahrung.) Id.
57 Liver Cysts in Children. (Lebercysten im Kindesalter.) W. P. Shukowsky.
58 Blue Disease from Congenital Anomalies. (Morbus caeruleus [Blausucht] bedingt durch eine grosse Reihe angeborener Anomalien des Herzens und anderer Organe.) F. Theodor.
59 Leukemia in Boy of Nine. (Bemerkenswerter Fall von Leukämie bei einen 9jährigen Knaben.) P. Kränzle and H. Rehn.
60 Chronic Appendicitis in Children. (Appendicite chronique chez les enfants.) J. Comby.
61 *Danger of Transmission of Syphilis in Modern Infant Asylums. J. Cassel.
62 *Statistics in Regard to Inherited Syphilis. Id.
63 *Importance of Serodiagnosis for Congenital Syphilis. (Bedeutung der Serumdiagnostik für die congenitale Lues.) M. Joseph.
64 Nocturnal Motor Neuroses of the Head in Children. (Die nächtlichen Kopfbewegungen der Kinder.) C. Stamm.
65 Two Cases of Infantile Scurvy. (Barlowsche Krankheit.) L. Concetti.
66 Serodiagnosis of Experimental Hyperthyroidism. (Begriff und Methode der bei der Diagnose des experimentellen Hyperthyreoidismus angewandten Complementablenkung.) F. Valagussa.
67 Chemistry of Children's Urine on Diet Rich or Poor in Albumin. (Acidität, Ammoniak, Phosphorsäure und Gesamtstickstoff im Kinderharn bei eiweissarmer und eiweissreicher Ernährung.) A. Vozarik.
68 Origin of Congenital Stridor. (Ueber eine anatomische und klinische bemerkenswerte Anomalie des Laryngotrachealrohres nebst kritischen Bemerkungen über die Aetiologie des Stridor laryngis congenitus.) J. Trumpp.
69 *Appendicitis in Children. (Appendicitis der Kinder.) G. Alsberg.
70 *Dosage of Drugs at Different Periods of Growth. (Dosierung der Arzneimittel in den verschiedenen Wachstumsperioden.) W. Troitzky.
71 Research on Pertussis. (Keuchhustenuntersuchungen.) G. Arnheim.
72 Enlargement of Spleen in Typhoid. (Milztumor im Typhus abdominalis.) A. Solaro.
73 *Diagnosis of Tuberculosis of the Bronchial Glands in Children. (Diagnosestellung der Bronchialdrüsentuberculose im Kindesalter.) O. Cozzolino.
74 [illegible] igestive Disturbances in In[illegible] efunde bei Ernährungskrank[illegible] Caan.
75 [illegible] for Artificially Fed Infants. (Nahrungsbedarf künstlich ernährter Säuglinge.) K. Oppenheimer.
76 Determination of Complement in Child's Serum. (Complementbestimmungen des kindlichen Serums.) H. Koch.
77 Motor Function of the Stomach. (Die motorische Function des Magens.) H. Roeder.
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June, XV, No. 3, pp. 325-440

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commenced about the same time, and in the others the stomach trouble did not appear until some time after the other had been installed. In the majority of cases treatment of the gynecologic affection did not attenuate the gastric trouble, although a number of cases are on record in which gynecologic treatment cured stomach disturbances of long standing, resisting internal treatment. Lewisohn states that examination of the stomach content during menstruation and pregnancy does not give a correct impression of the secretory functions of the stomach. The gastric acidity was subnormal in the majority of his cases, but others have reported normal findings or hyperacidity. The nervous affection of the stomach in these cases is preceded by some change in the general nervous system, and this latter requires treatment. The gynecologic lesion may be responsible for this general nervous disturbance and thus, indirectly, for the secondary stomach trouble.

95. **Gastric Ulcer and Digestive Hypersecretion.**—Grandauer states that the experiences at Strauss' clinic at Berlin with 48 cases of gastric ulcer and 27 suspects indicate a close connection between digestive hypersecretion and the presence of an ulcer. The ulcer is not merely an accompaniment of the digestive hypersecretion but helps to maintain it. The practical conclusion is that a course of treatment as for gastric ulcer is indicated in every case of hypersecretion in which there is the slightest suspicion of a tendency to ulcer. Butter and cream aid in combating the hypersecretion and help to keep the patient in good condition. Strauss has recently warned that the Lenhartz diet requires a certain amount of caution. Fat is one of the most essential factors in the treatment of gastric ulcer associated with hyperacidity.

98. **The Seroreaction to Syphilis in the Cadaver.**—The findings were positive in 28 and negative in 72 of the cadavers examined, the details of the cases showing that the Wassermann test is a useful aid in pathologic anatomic research. At the same time, diseases causing much debility, such as phthisis, sepsis and cancer, seem to induce a tendency to production of substances which give a positive reaction to the complement-fixation test. The details of the 100 cases are tabulated.

99. **"Salt Fever" in Rabbits.**—This communication from Heubner's hygienic institute at Berlin states that intravenous or subcutaneous injection of a salt solution induced an aseptic "salt fever" in the rabbits, much more pronounced with half the dosage when anaphylaxis had been previously induced. Grape sugar, alien blood serum and Ringer's solution all had this same fever-inducing effect.

Correspondenz-Blatt für Schweizer-Aerzte, Basle

June 15, XXXIX, No. 12, pp. 401-432

103 Topography for Localization in the Brain. (Neue Gesichtspunkte in der Frage nach der Lokalisation im *Grosshirn.*) v. Monakow.
104 Hydrophthalmus. Siegrist.

Deutsche medizinische Wochenschrift, Berlin

June 17, XXXV, No. 24, pp. 1049-1088

105 *Treatment of Itching Skin Lesions. [illegible] enden [illegible]
106 Is it poss[illegible] Above? [illegible] d Obtura[illegible] n
107 Changes [illegible] (Veränderung unserer kriegschirurgischen Anschauungen und Aufgaben.) Kayser.
108 *Buttermilk in Infant Feeding. (Ueber den derzeitigen Stand der Buttermilchernährung gesunder und *kranker Säuglinge.*) H. Koeppe.
109 Natural Difficulties in Way of Breast Nursing. (*Natürliche Schwierigkeiten beim Stillen.*) C. Stuhl.
110 Unreliability of Roentgen Exposures for Interruption of Pregnancy. (Zur Frage der Schwangerschaftsunterbrechung durch Röntgenbestrahlung.) H. E. Schmidt.

105. **Treatment of Itching Skin Lesions.**—Klingmüller remarks in the course of his *description* of the various methods of treatment that baths should be used more frequently than is the case at present for diffuse skin *affections* with general itching. Carbonated baths are specially *useful when* there is a nervous basis, and sulphur baths are particularly effectual in extensive eczematous disorders. *Alcohol rubs*, following with powder or salve, are useful and *refreshing*, cleansing without soap and water. He has frequently been gratified with the effect of sponging over the entire body in extensive itching conditions with a mixture of 0.2 part mercuric chlorid, 20 parts glycerin, 100 parts perfumed spirit and alcohol to 400 parts. Complete exclusion of air may relieve the itching and will prevent injury from scratching. For these reasons he applies a starch bandage over all the other dressings or applications in case of an itching dermatosis, especially on the legs. The same result may be accomplished by applying a varnish which dries rapidly, such as a combination of equal parts of zinc oxid, talcum, glycerin and distilled water, with or without addition of some disinfectant. This varnish shuts out the air and the glycerin keeps the skin soft, while the tendency to itching is attenuated. A plaster may be found useful for circumscribed dermatoses. The greatest progress in the treatment of itching lesions of late years has been realized by radiotherapy. He has made extensive use of the Roentgen rays especially for the subacute and chronic forms of itching dermatoses; good results have been obtained in pruritus vulvæ; the dosage is below that inducing a visible dermatitis. He has been successful also with violet and ultraviolet rays, using them to a slight erythema dosage. It is thus possible to arrest the itching in extensive eczema and with other dermatoses, and the rays are also liable to effect a complete cure.

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Medizinische Klinik, Berlin

June 13, V, No. 24, pp. 875-914

111 *Cirrhosis of Liver. (Leberzirrhose.) G. *Hoppe-Seyler.*
112 Chronic Non-Tuberculous Bronchial Lesions. (Chronische Br[illegible] sschluss der Tuberkulose.) Po[illegible]
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115 Hydriatic Treatment of [illegible]
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117 V[illegible] of Blood on Various Diets. [illegible] des Blutes bei verschiedener Ernährung, besonders bei Vegetariern.) H. Determann.

June 20, No. 25, pp. 915-952

118 *Puerperal Eclampsia. L. Seitz.
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122 Preparation of Digitalis. (Zwei *Digitalisfragen aus der Praxis.*) *C. Focke.*
123 Mechanism of Action of Baths in Heart Disease. (*Welches sind die erwiesenen Vorgänge der Zirkulation beim Gebrauch von Bädern, die zur Restitution des Herzens führen?*) Jacob.
124 Growth of Hair on the Body. (Behaarung des Leibes.) F. Schilling.
125 *Action of Mineral Waters on the Intestines. (Mineralwasserwirkungen auf den Darm.)* H. Kionka.
126 *Treatment of Syphilis.* E. Welander.

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its fat. The patients thrive on this diet and feel better in every respect, as he shows by a number of examples. Caution is necessary with diabetes, and the amount of fluids ingested had better be kept below 2 liters if there is general dropsy. The reduction of weight on this diet is from the loss of actual fat. It often requires more than six months to bring the patient down to his normal weight, and it is wise to keep up this diet a few days in each week to maintain the benefit.

80. **Treatment of Gastric Ulcer.**—Mayerle reviews the various methods in vogue and reports his results in 71 cases of gastric ulcer in which he applied Lenhartz's method. The list includes 29 recent, bleeding gastric ulcers, 17 chronic and 25 uncomplicated recent cases. His verdict is favorable on the whole, as smooth recovery was noted in 65 per cent., slow recovery without recurrence in 11 per cent., and with recurrence in 14 per cent. In 10 per cent. no benefit was apparent, or it was transient, while in 7.1 per cent. the diet was not tolerated. In no case was any injury apparent from the diet commenced immediately after the hemorrhage. Occasionally the Lenhartz diet seemed to increase the tendency to hyperchlorhydria and the allied hypersecretion. In these cases it was found necessary to increase the proportion of fat in the diet, while reducing the proportion of albumin. In the chronic cases with reduced acidity a diet with less albumin, moderate fat and carbohydrates predominating answered the purpose better.

81. **Mucomembranous Colitis.**—King bases treatment on diet, purgatives, enemas, massage and electricity. The food must be rich in waste, the fat in form of cream, butter and bacon, but castor oil and cod liver oil are the main reliance. The trouble is a local condition caused by irritation from stagnating fecal masses in persons with a tendency to neuroses. Treatment must aim to insure regular stools and to tone up the nervous system in general. Neither factor alone answers the purpose. He advises institutional care, even for the mild cases, for four or six weeks. The severer cases require a course of treatment continued for from six months to two years or longer. The patient must spend the first six weeks in bed. He impresses on his patients the importance of maintaining this diet, with gymnastic exercises before bathing in the morning, urging also the necessity for keeping occupied during the entire day. Operative measures do not offer much chance of success in the severer cases which resist systematic treatment.

82. **Periodical Stomach Disturbances.**—Büttner discusses a group consisting of genuine periodical hypersecretion, genuine periodical vomiting and genuine periodical cardialgia. There are two forms of periodicity, he declares, that of which neuralgia is the type and that of epilepsy. In the latter the attacks recur like an explosion from accumulation beyond a certain point, after which there is a period of calm until the accumulation reaches this point again. He is inclined to accept these two forms as evidence of the central or peripheral origin of the disturbance. This point is important for differentiation, as he shows by examples, including the case of a man of 35 who had acquired syphilis at 21 and had taken several courses of mercurial treatment. Every few weeks or months intense pains in the stomach occurred for a few hours, but no vomiting or headache, neurasthenia or migraine, and no signs of tabes. The assumption of gastric crises is justified by the characteristic periodicity of the cardialgia; the serum reaction may give the clue in such cases.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XIV, No. 1, pp. 1-166. Last indexed April 10, p. 1215

85 Cesarean Section. (Historisches und Kritisches über den Kaiserschnitt.) F. A. Kehrer.
86 The "Isthmus of the Uterus" and Placenta Formation at this Point. (Der Isthmus utero und die Placenta isthmica.) H. Bayer.
87 The Operative Era in Obstetrics, and Vaginal Cesarean Section with Contracted Pelvis. (Die neue Aera der Geburtshilfe und [illegible] inalen Kaiserschnittes bei engem [illegible]
88 Te [illegible] Cesarean Section and Delivery through the Utéro-Abdominal Wall Fistula. (Technik des extraperitonealen Uterusschnittes und der Entbindung durch die Uterusbauchdeckenfistel.) H. Sellheim.
89 Anatomy and Etiology of Congenital Hyperanteflexion of the Uterus. K. Hegar.
90 Chemical Research on Lutein Content of the Corpus Luteum during Pregnancy. (Luteingehalt des gelben Körpers während der Gravidität.) J. Wallart.
91 Simultaneous Tubal Pregnancy on Each Side. (Gleichzeitige doppelseitige Tubarschwangerschaft.) A. Labhardt.
92 Case of Trophoneurotic Lesions after Stovain Spinal Anesthesia. (Trophoneurotische Erscheinungen nach Lumbalanästhesie.) A. Mayer.

Berliner klinische Wochenschrift

June 14, XLVI, No. 24, pp. 1101-1148

93 *Nausea. I. Boas.
94 *Connection between Stomach and Gynecologic Disorders. (Zusammenhang von Magen- und Frauenleiden.) L. Lewisohn.
95 *Gastric Ulcer [illegible] rrhea. (Magengeschwür und [illegible] K. Grandauer.
96 Etiology of Tra [illegible] S. v. Prowazek.
97 Fracture of the Talus. R. Levy.
98 *The Syphilis Seroreaction in the Cadaver. (Luesreaktion an der Leiche.) E. Seligmann and G. Blume.
99 *Experimental "Salt Fever." (Salzfieber bei normalen und anaphylaktischen Kaninchen.) H. Davidsohn and U. Friedemann.
100 Staining Technic for [illegible] d beste Methode für den Nachweis [illegible] le Dominicis.
101 Criticism of Tests [illegible] ritik zur Harnzuckerbestimmung [illegible] nach Zeehandelaar.) F. Goldmann.
102 Umbilical Cord Infection and Hemorrhage. (Nabelerkrankungen des Neugeborenen.) E. Runge.

93. **Nausea.**—In Boas' opinion, the symptom of nausea has received insufficient attention from medical men. He enumerates the causes, including parasites, especially intestinal, arteriosclerosis, retention of urine from prostatic hypertrophy, brain tumors, uremia, and icterus. In these cases the nausea is accompanied by other more prominent subjective and objective symptoms. It is rare in gastritis, but may be found in connection with vomiting in conditions of stasis, and is common when there is abnormal formation of gas in the stomach or intestine. Of the cases in which nausea is the prominent symptom the majority are in females and a close connection with the various phases of menstruation is found. Genital and other hemorrhages are apt to induce it. Slighter causes may suffice to evoke it and it is frequently purely of psychic origin. A condition of under-nutrition is generally present. Nausea is not closely connected with the taking of food, but is more influenced by position and is usually removed or lessened by recumbency. The symptom probably depends on a vasomotor disturbance of the cerebral circulation which is favored by anemia, but with which the stomach itself has nothing to do, as is shown by the fact that the secretory activity of the organ is unaltered, or, if there is a slight deviation, it is in the direction of hypoacidity rather than hyperacidity. The diagnosis is usually easy, but, especially in men, careful physical examination should eliminate all possible organic causes. Even in women, too ready recourse to a psychic explanation may cause a beginning pregnancy to be overlooked. The prognosis is usually good, although there are rare obstinate cases. If the malady is very chronic a long course of treatment will be needed. In treatment proper psychic measures should be instituted and rest should be insisted on as the most important remedy. The diet should be easily digestible, palatable, and sufficiently nourishing. Hot compresses to the head have been useful in Boas' experience. Massage is objectionable in the early stages and forced or excessive feeding should be avoided. The bromids are useful in cases of moderate severity. Chloral, which may give good results in mild cases, fails utterly in the severe ones. Chloroform is palliative, but of no permanent value, and cocain has proved disappointing. Morphin in small doses hypodermically is indicated only in the severe cases, and here Boas regards its use as questionable on account of possible serious consequences and of the uncertainty of its effect. While medicinal treatment is of little value, rest and patience will usually lead to success.

94. **Connection Between Stomach and Gynecologic Affections.**—Lewisohn analyzes the clinical history of 100 cases in which there were both stomach and gynecological disturbances. Excluding all with an independent stomach trouble or general affection or enteroptosis, 34 are left in which the pathologic process in the genital apparatus seemed to be connected as a causal factor with the stomach affection. The list includes inflammatory processes in 16, displacement of the uterus in 5, and both in 10, a myomatous uterus in 1 and postoperative disturbances in 2. In only 7 cases were the stomach disturbances noted before the gynecologic; in 5 they

commenced about the same time, and in the others the stomach trouble did not appear until some time after the other had been installed. In the majority of cases treatment of the gynecologic affection did not attenuate the gastric trouble, although a number of cases are on record in which gynecologic treatment cured stomach disturbances of long standing, resisting internal treatment. Lewisohn states that examination of the stomach content during menstruation and pregnancy does not give a correct impression of the secretory functions of the stomach. The gastric acidity was subnormal in the majority of his cases, but others have reported normal findings or hyperacidity. The nervous affection of the stomach in these cases is preceded by some change in the general nervous system, and this latter requires treatment. The gynecologic lesion may be responsible for this general nervous disturbance and thus, indirectly, for the secondary stomach trouble.

95. **Gastric Ulcer and Digestive Hypersecretion.**—Grandauer states that the experiences at Strauss' clinic at Berlin with 48 cases of gastric ulcer and 27 suspects indicate a close connection between digestive hypersecretion and the presence of an ulcer. The ulcer is not merely an accompaniment of the digestive hypersecretion but helps to maintain it. The practical conclusion is that a course of treatment as for gastric ulcer is indicated in every case of hypersecretion in which there is the slightest suspicion of a tendency to ulcer. Butter and cream aid in combating the hypersecretion and help to keep the patient in good condition. Strauss has recently warned that the Lenhartz diet requires a certain amount of caution. Fat is one of the most essential factors in the treatment of gastric ulcer associated with hyperacidity.

98. **The Seroreaction to Syphilis in the Cadaver.**—The findings were positive in 28 and negative in 72 of the cadavers examined, the details of the cases showing that the Wassermann test is a useful aid in pathologic anatomic research. At the same time, diseases causing much debility, such as phthisis, sepsis and cancer, seem to induce a tendency to production of substances which give a positive reaction to the complement-fixation test. The details of the 100 cases are tabulated.

99. **"Salt Fever" in Rabbits.**—This communication from Heubner's hygienic institute at Berlin states that intravenous or subcutaneous injection of a salt solution induced an aseptic "salt fever" in the rabbits, much more pronounced with half the dosage when anaphylaxis had been previously induced. Grape sugar, alien blood serum and Ringer's solution all had this same fever-inducing effect.

Correspondenz-Blatt für Schweizer-Aerzte, Basle

June 15, XXXIX, No. 12, pp. 401-432

103 Topography for Localization in the Brain. (Neue Gesichtspunkte in der Frage nach der Lokalisation im Grosshirn.) v. Monakow.
104 Hydrophthalmus. Siegrist.

Deutsche medizinische Wochenschrift, Berlin

June 17, XXXV, No. 24, pp. 1049-1088

105 *Treatment of Itching Skin Lesions. (Behandlung der juckenden Hautkrankheiten.) Klingmüller.
106 Is it possible to Differentiate Ileus by Constriction from Band Above? (Ist die Abgrenzung einer Strangobturation vom Obturations- und Strangulationsileus berechtigt?) Wilms.
107 Changes in Views and Tasks in Field Surgery. (Veränderung unserer kriegschirurgischen Anschauungen und Aufgaben.) Kayser.
108 *Buttermilk in Infant Feeding. (Ueber den derzeitigen Stand der Buttermilchernährung gesunder und kranker Säuglinge.) H. Koeppe.
109 Natural Difficulties in Way of Breast Nursing. (Natürliche Schwierigkeiten beim Stillen.) C. Stuhl.
110 Unreliability of Roentgen Exposures for Interruption of Pregnancy. (Zur Frage der Schwangerschaftsunterbrechung durch Röntgenbestrahlung.) H. E. Schmidt.

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Medizinische Klinik, Berlin

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113 *Nervous and Mental Disturbances in School Children. (Die psychischen Erkrankungen der Schulkinder.) G. Flatau. Commenced in No. 23.
114 *Nail Extension Treatment of Fracture of Femur. (Zur Nagelextensionsbehandlung der Oberschenkelbrüche.) A. Schwarz.
115 Hydriatic Treatment of Neurasth[illegible]
116 *Prognosis in Tuberculosis. (D[illegible]i der Tuberkulose mit besonderer [illegible] Balneologie, nebst Bemerkungen über die Frühdiagnose und Tuberkulintherapie.) A. Wolff-Eisner.
117 Viscosity and Albumin Content of Blood on Various Diets. (Viskosität und Eiweissgehalt des Blutes bei verschiedener Ernährung, besonders bei Vegetariern.) H. Determann.

June 20, No. 25, pp. 915-952

118 *Puerperal Eclampsia. L. Seitz.
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120 [illegible] Ankylosis of Joints. (Physi- [illegible] Klapp.
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courses of mineral waters. A trip to a watering place benefits mainly by giving the patient a chance to change his mode of life and diet; a stay in a sanitarium may also prove of benefit, teaching the patient how he must live thereafter. Treatment along these lines will often arrest the disease if not too advanced, and the patient can resume his occupation without much disturbance from the digestive tract and liver. In a more advanced stage stronger measures are necessary, but tapping is not required unless the diaphragm is pushed up so much that there is dyspnea or the secretion of urine interfered with by the pressure on the kidneys. The condition of the heart and kidneys is of the greatest importance as chronic myocarditis is frequent; heart tonics may be necessary and the patient should be warned to avoid efforts liable to cause injury of the heart. Salt must be avoided, and meat extractives, especially when there is a tendency to edema. Diuretics may prove useful if ascites develops, and the collateral circulation should be promoted.

113. **Psychic Disturbances in School Children.**—Flatau concludes his long study of this subject with the statement that the main task is in prevention, and in this the school, the parents and the physician must cooperate. He denounces the way in which parents punish the child for actions in school for which he was sufficiently punished there; the legal principle *ne bis in idem* does not seem to apply to school children, he remarks. If spurred to undue ambition they are liable to become nervous and lose interest.

114. **Nail Extension in Treatment of Fractures of the Thigh.**—Schwarz has been applying Steinmann's method of applying traction to the fractured femur by a weight hanging from a nail driven into the femur just above the condyle on each side. The results have been good in all but one of his eighteen cases; in this the fracture was so close to the condyle that the introduction of the nails transformed the simple into a compound fracture, the resulting infectious process proving fatal. Except when the fracture is near the condyle and when the extravasation of blood extends down as far as this point, the nail extension seems to answer its purpose admirably.

116. **Tuberculin Reactions in Early Diagnosis and Prognosis.**—Wolff-Eisner comments on the importance of the new tuberculin local reactions as inaugurating a new era in our insight into tuberculosis and into the indications for treatment. He maintains anew that the greatest progress has been realized by the ocular or conjunctival test, which alone of all the tuberculin-diagnostic methods reveals exclusively the active tuberculous processes, not the quiescent. It is much more instructive and delicate, he says, than the seroreaction in syphilis, the so-called Wassermann test, which is a test-tube technic, not a biologic reaction. His experience with the ocular test in 4,500 cases has confirmed the fact that a pronounced positive ocular response offers a more favorable prognosis than a weak response or than no response when there are other signs of tuberculosis—the absence of a response in unmistakable tuberculosis shows that the vital processes are flagging. The longer a cutaneous reaction persists the better the prognosis, as the durable reaction indicates active defence on the part of the organism. A negative reaction to the cutaneous tuberculin test in the presence of manifest signs of tuberculosis should be accepted as an indication of an unfavorable prognosis. We thus have come into possession of a means of estimating the prospects of recovery which has proved infallible in his experience, with the single exception that the negative response in a pregnant tuberculous woman may become transformed into a positive response if her system is promptly relieved of the strain of the pregnancy. The complete change in conditions that follows the induced abortion may restore the reacting power and improve the otherwise unfavorable prognosis.

118. **Present Status of Puerperal Eclampsia.**—In the course of this article Seitz states that there are fully twenty cases of puerperal eclampsia on record in which there were no convulsions and presumptive diagnosis was confirmed only by the autopsy findings. The toxic nature of the disturbances seems evident; Stroganoff is the only one who still clings to the assumption of an infectious origin. Neither biochemical, nor serologic nor experimental research has established any special toxicity in the placenta in eclampsia. Zweifel's theory that the disturbances are the result of intoxication from meat lactic acid is discountenanced by specialists in metabolic chemistry who regard the lactic acid as a secondary product, "rather a consequence than a cause of the convulsions." At the same time, administration of alkalies is proving a valuable symptomatic means for restoring the waning alkalinity of the blood, and Seitz advocates its more general use. Sweating procedures do not seem to benefit; probably the toxin is of a colloid or big molecular composition which prevents its elimination in the perspiration, and the sweating may do actual harm, as it leaves the toxin more concentrated from the thickening of the blood. Zweifel combines venesection with saline infusion. Decapsulation has been done in 32 cases, but should not be attempted until delivery has failed to relieve. Bumm advocates artificial respiration, long continued, to maintain regular heart action and respiration and ward off cyanosis with its peril of pulmonary edema. As long as the blood pressure is high and the pulse good the heart can be counted on as a rule, but if the blood pressure drops heart tonics are indicated.

Münchener medizinische Wochenschrift

June 15, LVI, No. 24, pp. 1217-1264

127 *To Render the Tissues Less Sensitive to Roentgen and Radium Rays. (Desensibilisierung gegen Röntgen- und Radiumstrahlen.) G. Schwarz.
128 Passive Transmission of Hypersusceptibility to Tuberculosis. (Passive Uebertragung der Tuberkuloseüberempfindlichkeit.) J. Bauer.
129 Diagnostic Importance of Diastolic Murmurs in Dilatation of the Aorta. (Diagnostische Bedeutung diastolischer Geräusche über Erweiterungen der Aorta.) G. Hoppe-Seyler.
130 *Clinical Experiences with Intravenous Injections of Suprarenal Preparations in Collapse. (Erfahrungen über intravenöse Suprarenininjektionen bei schweren Herz- und Gefässkollapsen.) M. John.
131 *Panhysterectomy for Sterilization of Tuberculous Pregnant Women. (Sterilisation tuberkulöser schwangerer Frauen durch die Totalexstirpation des graviden Uterus mit seinen Adnexen.) E. Martin.
132 Relation between Accidents and Tumors. (Beziehungen zwischen Unfall und Geschwülsten.) Gebele.
133 To Cut Open Casts. (Billiges und bequemes Verfahren zum Aufschneiden von Gips- und Wasserglasverbänden.) W. Neumann.
134 Official Vital Statistics for Berlin. (Lehrreiche Angaben aus dem statistischen Jarhbuch der Stadt Berlin.) A. Fischer.

127. **Reduction of Sensitiveness to Roentgen and Radium Rays.**—Schwarz noticed that dry seeds were not affected by exposures to Roentgen rays, and germinated afterward apparently unmodified. Seeds beginning to germinate, however, were rapidly and seriously modified by even slight exposures. This connection between the quiescent and active metabolism and the sensitiveness to the action of the Roentgen rays suggested that if the metabolism in a part could be artificially reduced the region would be desensitized—to borrow a term from photography. He here describes experiments in this line which confirm his assumption that reduction of the metabolic processes in human tissues reduces the sensibility to Roentgen and radium exposures. He gives an illustration of one experiment: A girl of 11 being treated for nevus of the forearm had two square radium capsules applied, one lying loose on the arm, the other strapped down so tight that it compressed the skin and expelled the blood, thus checking the metabolism. The dermatitis under the loose capsule was marked and required two weeks for complete subsidence, while under the compressing capsule there was only transient, slight hyperemia. The same effect was obtained with Roentgen exposures of two square spots on the side of the head, one compressed and the other not. The hair dropped out of the non-compressed square, while the compressed square patch showed no effect from the Roentgen exposures. He does not venture to decide what technic is best for the purpose of checking the metabolism: mechanical pressure, elastic traction, compressed air, congelation or a chemical—he is now experimenting with each and is confident that this desensitization will aid materially in Roentgen and radium treatment, both of the skin and of deeper regions.

130. **Intravenous Suprarenal Preparations in Collapse.**—John reports seven cases which illustrate the life-saving benefit possible in cases of threatening cardiovascular collapse. This measure may succeed in tiding the patients past the danger point when everything else has failed. His clinical experience

confirms in every respect the results of experimental research. It seems possible that doses may prove effectual smaller than those hitherto advocated. In one of the cases he failed to follow up the remarkable benefit from a single injection, and ascribes the fatal outcome to his shrinking from continuing the injections.

131. **Sterilization of Tuberculous Pregnant Women by Hysterectomy.**—Martin advocates vaginal panhysterectomy as a comparatively simple means of arresting the pregnancy in tuberculous women whose condition requires this. He reports ten cases in which this was done with the restoration to comparative health of the women. One reason for removing the ovaries is the physiologic tendency to take on fat after the premature menopause. This is a favorable factor in the struggle against tuberculosis. The hysterectomy is done under spinal anesthesia, the whole requiring less than twenty-four minutes, and the women recovering promptly. The cases in which this is indicated are those with mild or moderate tuberculosis and the pregnancy in its first third; the ocular tuberculin test is often useful in defining the indications.

Wiener klinische Wochenschrift, Vienna

June 17, XXII, No. 24, pp. 839-874

135 *Auricular Fibrillation and Absolute Irregularity of the Heart. (Vorhofflimmern und Arhythmia perpetua.) C. J. Rothberger and H. Winterberg.
136 Influence of Intravenous Injections of Cholera Antitoxin on Course of Disease. (Einfluss der intravenösen Injektionen des antitoxischen Anticholeraserums.) A. Jegunoff.
137 *Aseptic Intestinal Anastomosis. (Darmanastomosen.) L. Moszkowicz.
138 *Importance of Determination of Antitrypsin in Puerperal Conditions. (Verwertbarkeit von Antitrypsinbestimmungen bei puerperalen Erkrankungen.) H. Thaler.

June 24, No. 25, pp. 875-910

139 Behavior of Bowel Wall as Osmotic Membrane in Inflammation. (Verhalten der Darmwand als osmotische Membran bei akuter und chronischer Enteritis.) E. Mayerhofer and E. Pribram.
140 Subperitone[illegible] Technik der subperitonealen [illegible] Frank.
141 Treatment [illegible] (Behandlung der phlyktänulären [illegible] uf Grundlage ihrer Aetiologie.) A. [illegible]
142 Trachoma Bodies. [illegible] F. Gutfreund. Id. (Die sogenannten [illegible] om Standpunkte der bisherigen Forschungen über die Aetiologie des Trachoms.) W. Reis.
143 Disturbances in Breathing in Tabes: (Atemstörungen bei Tabes dorsalis.) H. Eppinger and L. Hess.
144 Testing Color Vision in Railway Employés. (Zur Frage der bahnärztlichen Farbensinnprüfung.) J. Rosmanit.

135. **Fibrillation of the Auricles and Irregular Pulse.**—The electrocardiogram has thrown light on the mechanism of the absolutely irregular pulse; Rothberger and Winterberg think that they have discovered with it that the irregularity may be due to fibrillation of the auricles. This may subside at times, explaining the occasional lapses into normal rhythm. The fibrillation may extend throughout the whole heart, and may be the explanation for certain cases of sudden death in arrhythmia perpetua. The behavior of the auricles, whether they are beating, standing still or whether there is auricular fibrillation, is instructively shown in the electrocardiogram.

137. **Aseptic Enteroanastomosis.**—Moskowicz gives illustrations of his method of anastomosis with which the parts are sutured before the lumen is opened.

138. **Antitrypsin Test with Puerperal Lesions.**—Thaler announces that the antitryptic index is exceptionally high in cases of puerperal fever with an unfavorable outcome. He found the Fuld method of determining the trypsin simple, convenient and reliable, the increase in the antitryptic index proving a valuable aid for diagnosis of pregnancy and for the prognosis of puerperal affections.

Zentralblatt für Chirurgie, Leipsic

June 19, XXXVI, No. 25, pp. 889-928

145 Improved Illumination for Interior of Bladder. (Lichthebel bei Sectio alta.) Meisel.

Zentralblatt für Gynäkologie, Leipsic

June 19, XXXIII, No. 25, pp. 865-896

146 *Injection of Adrenalin to Prevent Hemorrhage while Clearing out the Uterus after Abortion. (Adrenalininjektion zur Vermeidung der Blutung bei Entfernung von Placentarresten nach Abort.) O. Grasser.
147 *Two Fatalities from Adrenalin in Gynecologic Operations (Warnung vor Adrenalin.) N. N.

146. **Adrenalin Injections to Prevent Hemorrhage in Curetting the Uterus.**—Grasser has been using adrenalin for three years as a preliminary to clearing out the uterus after abortion when there is reason to anticipate much hemorrhage. He injects directly into the vaginal portion of the uterus 1 c.c. of physiologic salt solution, or of a 1 per cent. solution of cocain, to which two or three drops of a 1 per thousand solution of adrenalin have been added. The fluid is injected at two points, 1 or 2 cm. deep, and after waiting for ten minutes the curetting can proceed. He has never witnessed any injurious effect from the adrenalin in this concentration, while the saving of blood has been remarkable and there has been no tendency to after-hemorrhage.

147. **Warning Against Adrenalin.**—An anonymous writer relates two fatalities following injection of adrenalin into the vaginal portion of the uterus. The first patient was a woman of 47 with total prolapse of the uterus, the vaginal portion of which was much hypertrophied. Under chloroform the fluid, consisting of 1 c.c. of adrenalin solution in 10 c.c. of 0.8 per cent. salt solution, was injected at three points when suddenly retching occurred, respiration and pulse stopped, and it proved impossible to revive the patient. Ten days later the same syndrome with instant death occurred in a similar case, the patient being a robust woman of 33 with a hemorrhagic metritis and fibrous hypertrophy of the neck of the uterus requiring wedge resection. Some of the fluid used was injected into rabbits but showed no injurious by-effects. The dose was very small in these cases, not more than 0.0003 gm. of active adrenalin, while he has injected twice this amount in more than fifty other cases without mishap.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 13, XXX, No. 70, pp. 737-752

148 Intestinal Parasite in Snails Pathogenic for Man and Animals. (Presenza nelle feci e nell'intestino della lumaca di una nuova specie di pseudorabdite.) P. Barabaschi.

June 15, No. 71, pp. 753-760

149 *Serum as Hemostatic for Hemophilics. (Sull'uso del siero come emostatico nelle emorragie degli emofiliaci.) L. Gangani.

June 17, No. 72, pp. 761-768

150 *Vaccination in Tuberculosis. A. Germani.

June 20, No. 73, pp. 769-784

151 Frequency of Relapses in Malaria after Operations or Venesection. (Le recidive malariche postoperative e da salasso.) P. Marogna.

June 22, No. 74, pp. 785-792

152 *The "Apex Beat." (Ictus cordis.) E. Caccianiga.

June 24, No. 75, pp. 793-800

153 Tuberculosis and Mediterranean Fever. M. Gioseffi.

149. **Serum as Hemostatic in Hemophilia.**—Gangani found it possible to arrest with serum threatening hemorrhages in a boy nearly four years old, whose maternal grandmother and paternal grandfather were hemophilic. Success was not complete until he supplemented the diphtheria antitoxin first used with fresh rabbit serum. He is convinced that failures in the experience of others are due to the fact that the serum used was too old, or modified in some way. The injection of 10 or 20 c.c. of serum should be repeated and pushed beyond the maximum generally accepted, he declares, and the fresher the serum the better the results. He injected 20 c.c. of antitoxin and 75 c.c. of rabbit serum in the course of eighteen days in the case reported.

150. **Vaccination Against Tuberculosis.**—Germani reviews the history of specific treatment and vaccination against tuberculosis and reports ten cases in which persons unusually exposed to tuberculous infection and predisposed were apparently saved by vaccination according to Maragliano's technic. This is the inoculation of the arm with a tuberculous vaccine to create a tuberculous abscess without living bacilli, and thus to activate the production of defensive *antibodies.* His experience has confirmed the harmlessness of the method and he urges its application, especially in industrial centers, as an important link in the chain of measures against the white plague.

152. **The Apex Beat.**—Caccianiga in examining 45 individuals, healthy or sick, found that the actual apex of the heart did not correspond with the location of the so-called apex

beat in a single instance. In four the distance between was over 2 cm., the interval being longest in those with some cardiac defect or disturbance. According to his experience, the apex beat is the impulse from a part of the ventricle above and to the right of the actual apex.

Policlinico, Rome

June, XVI, Surgical Section, No. 6, pp. 241-284

154 *Secreting Function of the Epithelial Cells of the Thyroid in Relation to Cervical Sympathectomy. (Funzione secretiva delle cellule epiteliali della tiroide, in rapporto alla simpaticectomia cervicale.) F. Casagli.
155 *Action of Iodin on Tuberculous Tissues. (Ricerche chimiche sull'azione dello iodio nei tessuti tubercolari.) D. Leonardo.
156 *Experimental Research on Anastomosis of the Vasa Deferentia. (Ulteriori ricerche sull'anastomosi del condotto deferente.) U. Dall'Acqua.

154. **Secretion in the Thyroid in Relation to Sympathectomy.**—Casagli describes experimental research on the behavior of the thyroid after sympathectomy. His experiments were made on rabbits five or six months old, treated by unilateral or bilateral cervical sympathectomy at one or two sittings. The results speak against the assumption of fibers in the sympathetic inhibiting secretion in the thyroid or with any direct influence on the secretory function of the gland. He is convinced, therefore, that there is no rational basis for functional suppression of the cervical sympathetic in treatment of exophthalmic goiter.

155. **Action of Iodin on Tuberculous Tissue.**—Leonardo discusses the history of iodin in treatment of tuberculous affections and describes microscopic examination of the tissues after local or general injections of an iodo-iodid solution in tuberculous and various other lesions—a total of 22 cases. His findings show that iodin has a different action on tuberculous tissue, but that this action differs according as the drug is injected locally or not. In general injections it has a general tonic effect, raising the opsonic index. When injected directly into a tuberculous focus it induces a local irritative process and consequently attracts to the spot both leucocytes and serum and thus a larger quantity of bactericidal and antitoxic substances.

156. **Anastomosis of the Vas Deferens.**—Dall'Acqua has been experimenting on 60 dogs and rabbits with 12 different methods of anastomosis between the stumps of the severed vas, comparing them and the ultimate outcome with similar research reported by others. The final results indicate that the best technic for reconstruction of the vas after it has been severed is by direct anastomosis by suture, using catgut No. 00.

Riforma Medica, Naples

June 14, XXV, No. 24, pp. 651-666

157 Action of Certain Toxins in the Blood in Trypanosomiasis. (Azione di alcuni veleni del sangue nelle tripanosomiasi.) G. Fusco.
158 Behavior of Glycogen in the Human Parathyroids in Disease. (Come si comporta il glicogene nelle paratiroide dell'uomo nelle malattie.) P. Guizzetti.

Hygiea, Stockholm

May, LXXI, No. 5, pp. 417-511

159 *Ascending Tuberculous Infection of the Kidneys. (Njurtuberkulos af urogen infektion.) G. Ekehorn.
160 Technic for Operations on the Kidneys. (Till operationstekniken for operationer å njurarna.) Id.
161 *Treatment of Laryngeal Tuberculosis. N. Arnoldson.
162 Iodized Catgut, especially for Operations on Stomach and Intestine. (Om användandet af jodkatgut, speciellt vid operationer å magsäck och tarm.) J. A. Hedlund.

159. **Ascending Tuberculosis of the Kidneys.**—Ekehorn has had 16 nephrectomies done in his service since 1906 and in 8 cases of tuberculous kidney the infection was evidently of urogenic origin. This may occur with a tuberculous affection of the epididymis or prostate or of the other kidney or of both. In one case a tuberculous epididymitis had existed for twenty-five years at least, although long comparatively latent. In the fifteenth year transient hematuria was observed for a time. Another patient had been operated on eleven years before for tuberculous epididymitis, and when symptoms of a renal process were detected the kidney was removed within six months, and the patient, a man of 45, seems in good health at present. Ekehorn's 5 cases of involvement of the second kidney teach the important lesson that in every case of renal tuberculosis in which the symptoms can be traced back for three, four or five years, extreme caution is necessary in estimating the indications for operative intervention. It is possible and even highly probable that the kidney apparently causing the disturbances, which is tender and palpable, is the kidney secondarily involved. If this kidney is removed the patient is left without any functioning kidney, as happened in one of the cases reported. The patient was a woman of 24 and autopsy revealed that the assumed sound mate was contracted, only 6 cm. long, and evidently the source of certain renal symptoms observed twelve years before. In another case there had been kidney symptoms for a number of years in a woman of 43. No operation was attempted but autopsy revealed an old tuberculous process in one kidney and pronounced dilatation of the ureter and kidney pelvis on the other side but no tuberculous involvement of them or of the kidney, although the ureter near the bladder showed microscopic round-celled infiltration.

161. **Treatment of Laryngeal Tuberculosis.**—Arnoldson deplores the general frequent neglect of laryngologic treatment in sanatoria, urging that specialists should be at hand to apply suitable treatment. He insists further on the necessity for more active measures, citing M. Schmidt's statement (1907) that since he has instituted more active measures his proportion of recoveries has increased from 2.5 to 20 per cent.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. Part VIII. Gout. By Prof. Dr. H. Strauss, Professor of the Third Clinic, Royal Charity *Hospital, Berlin. Authorized American Edition.* Translated Under the Direction of Nellis Barnes Foster, M.D., Associate Physician to the New York Hospital. Cloth. Pp. 70. Price, $1. New York: E. B. Treat & Co., 1909.

THE UNKNOWN LIFE AND WORKS OF DR. FRANCIS JOSEPH GALL. The Discoverer of the Anatomy and Physiology of the Brain. An Inaugural Address delivered before the "Gall Society" on May 15, 1909. By Bernard Hollander, M.D., Physician to the British Hospital for Mental Disorders. Paper. Pp. 31. Price, one shilling. Published for the Gall Society by Siegle, Hill & Co., 2, Langham Place, London, W.

CLINICAL TREATISES ON THE SYMPTOMATOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION. By Prof. Edmund Von Neusser, M.D., Professor of the Second Medical Clinic, Vienna. Authorized English Translation by Andrew MacFarlane, M.D., Professor of Medical Jurisprudence and Physical Diagnosis. Part III. Angina Pectoris. Cloth. Pp. 71. Price, $1. New York: E. B. Treat & Co., 1909.

PHYSICIAN AND NURSE. An Idealization. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. An Address delivered before the Graduating Class of the Philadelphia School for Nurses, May 24, 1909. Paper. Pp. 22. Philadelphia School for Nurses, 2219 Chestnut St., Philadelphia.

OBSTETRICS. Edited by Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern [illegible] hool, with the Collaboration of Herbert M. [illegible] The Practical Medicine Series. Cloth. Pp. [illegible] Price, $1.25. Chicago: The Year Book Publishing Co., 1909.

THIRD INTERNATIONAL CONGRESS FOR SCHOOL HYGIENE. Paris, March 29-April 2, 1910. Announcement. Paper. Pp. 66. Secretary, M. C. Dr. Dufestel, 10 Boulevard Magenta, Paris. American Secretary, Dr. T. A. Storey, % College of the City of New York, New York City.

THE REPORT OF THE NATIONAL CONSERVATION COMMISSION AND A CHRONOLOGICAL HISTORY OF THE CONSERVATION MOVEMENT. Bulletin No. 4. Paper. Pp. 52. Issued by The Joint Committee on Conservation, 43 Wyatt Building, Washington, D. C.

ELECTRICITY IN GYNECOLOGY. By May Cushman Rice, M.D., Professor of Gynecology and Clinician in the Illinois School of Electrotherapeutics. Cloth. Pp. 159, with illustrations. Price, $1. Chicago: L. I. Laing & Co., 1909.

THIRTY-EIGHTH ANNUAL REPORT OF THE STATE BOARD OF EDUCATION Together with the Sixty-third Annual Report of the Commissioner of Public Schools of Rhode Island. January, 1908. Cloth. Pp. 154.

STATE HOSPITALS BULLETIN, NEW YORK. Published Four Times a Year by Authority of the State Commission in Lunacy. Vol. II, No. 1, May, 1909. Paper. Pp. 320. Price, 50 cents.

TRANSACTIONS OF THE FLORIDA MEDICAL ASSOCIATION, Held at Pensacola. April 1909. Paper. Pp. 289.

FESTSKRIFT VID TUBERKULOS-KONFERENSEN I Stockholm, 1909. Paper. Pp. 136, with illustrations. Utgifven af Svenska Nationalföreningen Mot Tuberkulos.

NICHOLAS SENN. An Appreciation, Published under the auspices of the Nicholas Senn Club of Chicago. By S. M. Wylie, M.D., Paxton, Ill. Cloth. Pp. 27.

INFINITY OR NATURE'S GOD. By F. J. Duggan, M.D., Grand Forks, N. D. Flexible Leather. Pp. 136. Price, $1.50.

Craemer,[9] discussing Rieder's[10] paper before the medical society of Munich, cited a case of fistula of the ileum through which oil appeared, the enema being given through the ordinary short tube.

v. Aldor,[11] in 1903, advocating the use of high enemata in chronic catarrh of the colon, asserted that he used soft rubber tubes 9 mm. (⅓ in.) in diameter and 80 cm. (32 in.) in length which he passed into the descending colon.

Boas,[3] replying to v. Aldor, denied the possibility of passing a soft rubber tube into the sigmoid and asserted that the so-called high enema was an illusion. He maintained that by means of auscultation one may determine the passage of liquids to the cecum, introduced through the ordinary short rectal tube. He cites a case of cecal fistula through which water injected through the short tube (4 to 6 inches in length) appeared within a few minutes.

V. Aldor,[12] in 1905, reiterated his former views, publishing two x-ray pictures, one with a tube coiled up in the rectum, the other with a tube apparently in the descending colon. Unfortunately the bony landmarks can not be seen in the radiographs he shows, and the exact anatomic relations can not be defined. V. Aldor lays great stress on the "right way" of passing the tube. He places the patient on his left side, the well-oiled tube being introduced slowly, withdrawing a little when resistance is felt and then again advancing. He explains the actions of liquids in cases of fistula of the colon as being caused by abnormal reverse peristalsis which he assumes to be present in these cases. He insists that in normal individuals the fluid introduced by means of a short tube collects in the ampulla recti and never reaches the colon.

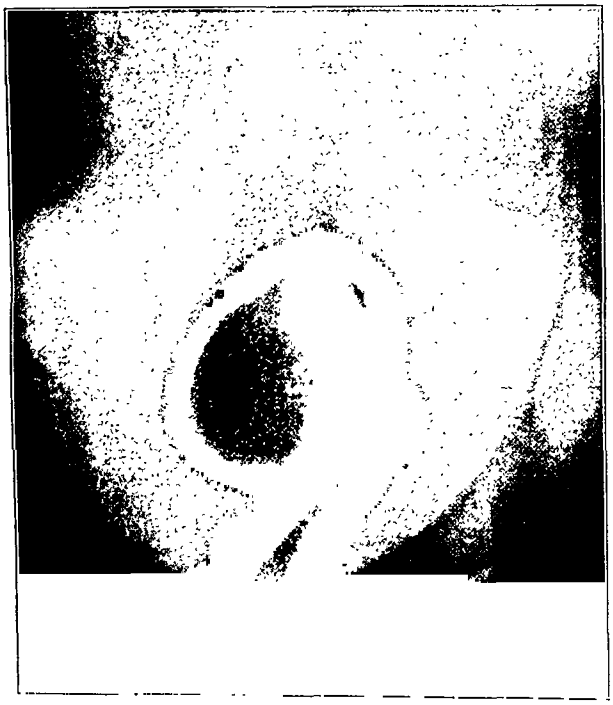

Fig. 2.—Another view of the same condition as in Figure 1.

Rosenberg[13] and Lilienthal,[14] in a long series of experiments (working independently), attempted to follow v. Aldor's method, supplementing it by means of the sigmoidoscope and the knee-chest position. Both arrived at the same conclusions, which they verified by x-ray photographs, that: (1) the soft rubber tube invariably coiled up in the rectum; (2) the elastic woven tube and metallic spiral sound could be passed only to the bend or apex of the sigmoid flexure where they impinged on the wall, the long mesentery of the sigmoid stretching out in a fan-like manner, permitting no further progress; (3) by means of the sigmoidoscope the soft tube could be made to reach the center of the sigmoid, but no farther, the longest distance being 30 cm. (12 in.).

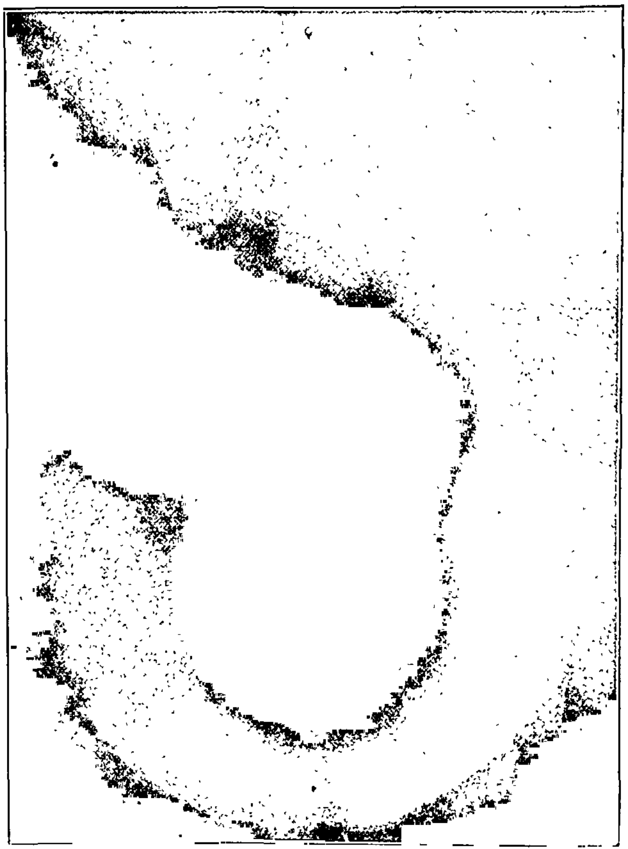

Fig. 3.—Skiagram showing the outlines of the ampulla recti with the anal canal of Symington; taken 2 hours after the administration of an enema of oil and bismuth.

Recently G. S. Hanes,[15] of Louisville, Ky., states that he has succeeded in passing the colon tube through both the splenic and hepatic flexures of the colon. He fails, however, to show any pictures with such a tube in position, but shows several radiographs of the coiled tube in the ampulla. J. M. Matthews,[16] in discussing Hanes' paper, stated that "he thought a good rectal bougie of sufficient consistence could be introduced into the colon."

During the past eighteen months I have conducted a series of experiments in which I have attempted to pass long soft rubber blunt-end tubes with side openings into the rectum, the patient being in the side and in the knee-chest positions. Sixty cases were examined. In some a mixture of oil and bismuth, in others of bismuth and water, was allowed to flow through the tube simultaneously with its introduction. In others merely the well-oiled tube was used. The position of the tube was then verified by means of a specially constructed fluoroscopic apparatus. The radiographs which I present as exhibiting the results of my experiments were taken by Dr. R. J. Carman.

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[9] München. med. Wchnschr., 1906, liv, 196.

[10] München. med. Wchnschr., 1906, liii.

[11] Behandlung chronische Dickdarmkatarrhe mit hohen Eingiessungen, Berl. klin. Wchnschr., 1903, xix.

[12] Der Wert der hohen Darmeingiessungen, Berl. klin. Wchnschr., 1905, xxxiv, 44.

[13] Darmsondierung, Deutsch. med. Wchnschr., 1905, xlii, 498.

[14] Sondierungversuche des Colons, Arch. f. Verdauungskr., 1906, xii, 140.

[15] The Introduction of Tubes, Bougies and Metal Instruments into Lower Bowels, with Radiographic Illustrations, Kentucky Med. Jour., 1909, iv, 173.

[16] Kentucky Med. Jour., 1909, p. 182.

Figures 1 and 2 illustrate the manner in which the tube invariably coiled up in the dilated portion of the rectum. In many cases I felt sure from the ease in which the tube entered that it was surely in the colon, but always found it coiled as before. In both figures the length of the tube introduced was 22 inches.

Figure 3 shows graphically the outlines of the ampulla recti with the anal canal of Symington. The radiograph was taken two hours after an enema consisting of 500 c.c. (1 pint) of oil and 100 gm. (3¼ oz.) of bismuth subnitrate. It is here that the folding of the tube occurs. The fluid one hour before had reached the cecum.

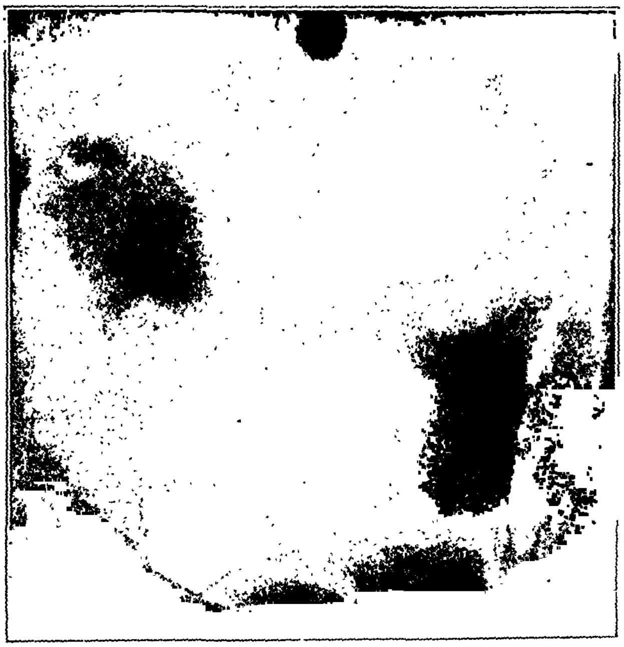

Fig. 4.—Skiagram of the ascending, transverse and descending colon and a portion of the cecum fairly well filled with an oil and bismuth enema.

In Figure 4 an enema of the same ingredients as in Figure 3 was given through a soft rubber tube introduced 4 inches into the bowel with the patient lying on his left side. He remained in this position for one hour when the radiograph was taken. The ascending, transverse and descending colon and a portion of the cecum are seen to be fairly well filled.

Figure 5 shows the tube high up in the colon passing up on the right side, then curving to the left and reaching the diaphram near the median line. This, the only case in which I succeeded in introducing the soft tube higher than the dome of the rectum, proved to be a case of Hirschsprung's disease or congenital idiopathic dilatation and hypertrophy of the colon. Even here it was necessary to use the sigmoidoscope to introduce the tube. This raises the question of anomalies of the sigmoid and colon, especially the straight and dilated, or slightly bent sigmoids. All the text-books on anatomy that I have consulted are silent on this subject. In the literature all the references to such conditions were of the same character, *i. e.*, to cases of dilatation and hypertrophy of the lower segment of the colon, particularly of the sigmoid flexure. V. Aldor's case above referred to strongly suggests the possibility of such an anomaly as is shown in the figure.

In conclusion, I believe that it is only in those rare cases of abnormal development of the sigmoid that it is possible to introduce a soft rubber tube higher than six or seven inches in the rectum without it bending or coiling on itself. With the aid of the sigmoidoscope *only the middle of the sigmoid* can be reached. The practice of allowing liquids to flow through simultaneously with the introduction of the tube serves to smooth out the kinks and adds to the illusion that the tube is going higher.

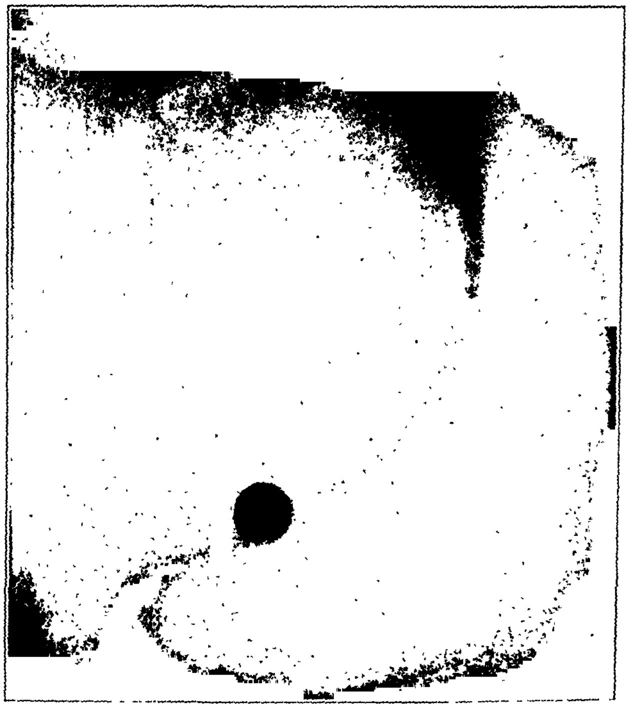

Fig. 5.—Skiagram showing the rectal tube high up in the colon in a case of Hirschsprung's disease.

The short tube, 6 inches in length, is therefore best for all sorts of enemata (a), when water, etc., is introduced for the purpose of causing fecal evacuations, using the fountain syringe or funnel and long tube in the usual way. It is possible, as I have frequently demonstrated, thoroughly to cleanse the entire colon by using a large caliber (½ in.) short tube. This is connected by rubber tubing with a large funnel elevated from 3 to 4 ft. above the patient, pouring in the solution until he experiences a feeling of distention or desire to evacuate, then lowering the funnel until the outflow has ceased, repeating this maneuver in exactly the same manner as in gastric lavage.

The short tube is also best (b) when retention of liquid is desired, as in administering saline solution, oil, nutrient material, etc. The attempt to pass the tube *higher into the bowels is not only* unnecessary but, because of the coiling that inevitably occurs, such a manipulation tends to produce irritability of the bowel. This, of course, will very probably cause expulsion of the fluid.

OTOLOGIC AND RHINOLOGIC COMPLICATIONS OF SKULL FRACTURE *

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Fractures of the base of the skull are interesting to the aurist and rhinologist for several reasons.

First, the lines of fracture frequently cut the bones containing the special organs of sense, which are his special field of work. Second, the intracranial lesions take place largely in areas of the brain in which he is especially interested. Third, a study of traumatic lesions of the brain may broaden considerably his knowledge of certain cranial symptoms which are in a measure allied with those produced by diseased conditions of the ear and nose invading the tissues within the skull. Also, they are of interest because knowledge of the causes and sequelæ enable the specialist in diseases of the ear and nose to more thoroughly understand what has actually taken place within the skull, when he may be called in consultation with neurologist or surgeon for aid in diagnosis in suspected cases of basal fracture; or to give expert testimony in the courts of law when the ear has been involved.

Unless one has especially studied the extent of the fissures, he is usually amazed to find the amount of injury which the basal bones may receive. The injury may be found in any part of the base, but a study of a number of cases will reveal certain areas to be more fragile than others. (The sella turcica, petrous portion of the temporal, great wing of the sphenoid and orbital plates of the frontal, are the ones most often involved.) The injuries usually cross the suture lines at rather wide angles and seldom follow close to them for any distance.

The lines of fracture occasionally pass from one extremity of the skull to the other, either from before backward, or from side to side (Figs. 1 and 6). The fractures are not necessarily caused by extremes of violence; the most extensive fracture I know of, having occurred in a man who simply fell backward, striking his head on the floor (Fig. 1). In this case the lines radiated in every direction on three sides of the head. Another man fell from the top of the telephone pole and while the fall proved fatal, the autopsy showed the fracture to be relatively short in extent.

The accompanying illustrations show the location, extent, and injuries of fractures of the base of the skull, with special reference to hemorrhage from the ear. Below each illustration will be found a brief case history of that particular injury.

The fracture lines usually begin at, or near, the point of injury and run in a zig-zag course across the base of the skull. The dura, because of its intimate attachment, is usually ruptured with them. The lines often cut through the grooves for prominent blood vessels. Thus the lateral sinus and middle meningeal artery are often ruptured and cause alarming and fatal hemorrhages. Again, when the point of injury is in the frontal or parietal bones, the force of the accident frequently travels diagonally or straight downward into the basal bones and spends its force there. This is an unfortunate tendency, in as much as fractures of the base are more fatal than those of the vault, and are less open to operative measures for relief.

Doubtless one great reason why hemorrhage of the ear is one of the most frequent symptoms, is because of the location of the temporal bone. Situated as it is, practically in the center of the skull, it receives within its body the fractures from surrounding areas. Thus it is cut when the point of contact is in the frontal region, the fracture reaching it before its violence is spent. The same is true of injuries of the occipital and parietal regions, for the same cause. In fact, the petrous portion of this bone frequently marks the end of a fracture and is cut in several directions, the lines spreading over its surface like the lines of a fork, the single fracture extending from the point of injury to this bone forming the handle (Fig. 2). However, when we consider the number of foramina, cavities, etc., in the petrous portion, this does not seem strange.

Hemorrhage from the ear naturally follows, and in a measure we can roughly estimate, in a number of cases, the possible line of fracture by imagining it to extend from the external injury to the affected temporal bone, even though it may occur on the opposite side of the head. In connection with this much has been said of *contre coup*. Doubtless hemorrhage from the ear occurs in this manner, but I am inclined to believe that it does so less frequently than is generally supposed. When autopsy records tell of fractures 8, 9 or 10 inches in length one does not need the *contre coup* hypothesis to account for any symptoms present (Figs. 1 and 6).

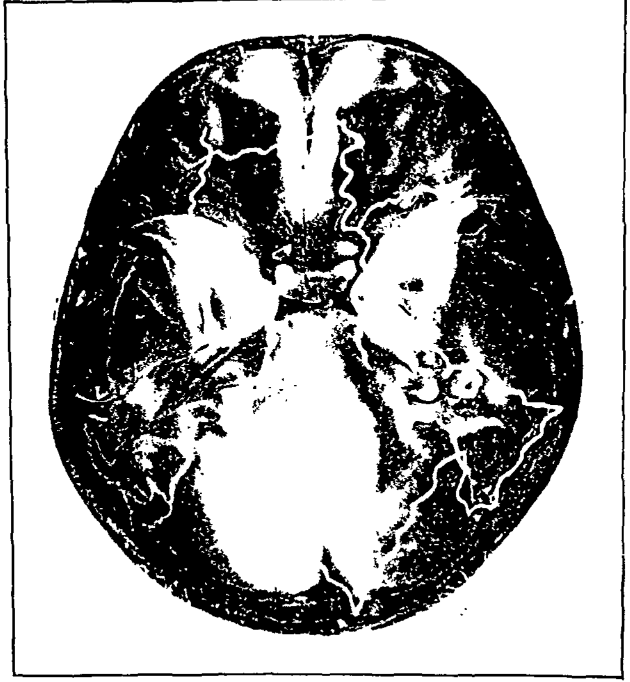

Fig. 1.—R. B., fell backward, striking the head on the floor. The autopsy showed the pupils unequal. There were crusts of blood in both auditory canals, and crust in anterior nares. Dura was tense, congested and bulging. Surface of brain was bathed in bloody fluid, but there were no blood clots. Frontal lobes were soft, mushy and blood stained. Ventricles were not distended. A small area of clot was found in upper part of pons. There was an area of softening in right lobe of cerebellum.

In a record of 35 autopsies I find the parietal bones to be the ones most frequently injured, they having been involved in 18 cases. The squamous portion of the temporal was cut through in 13 and the petrous portion in 12. Injury to the remaining bones of the skull—in their order of frequency—occurred as follows: Occipital, 12; frontal and orbital, 12; great wing of the sphenoid, 10; sella turcica, 10; cribriform plate, 4; body of sphenoid, 3; crista galli, 3; lesser wing of sphenoid, 2; occipital plate of sphenoid, 1, and the ethmoid plate, 1, while the groove in the occipital bone for the lateral sinus was found to have been cut four times.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In the series of 408 cases under consideration, 221 patients had hemorrhages from either one or both ears; it occurred in 202 on one side only and in 19 on both. The amount varied from a slight trace of blood to a persistent flow of the same fluid for a considerable time. A small percentage presented a flow of serous or meningeal fluid from the ear. Autopsy records show the hemorrhages to have occurred from the middle meningeal and other cranial arteries, from the small vessels of the dura, pia, and diploe of the cranial bones, and in several instances from rupture of the lateral or longitudinal sinuses.

So far as I can determine, hemorrhages from the ear, either in large or small amounts, are not especially important as influencing the ultimate prognosis. In a series of 142 cases, with hemorrhage present, it occurred on the side of the injury in 62.3 per cent., on the side opposite the injury in 16.5 per cent. and on both sides in 11.2 per cent. The location in the remaining 10 per cent. was not mentioned by the records. Of the 408 cases collected in the series, 62 were classed as fractures of the vault and 346 as fractures of the base.

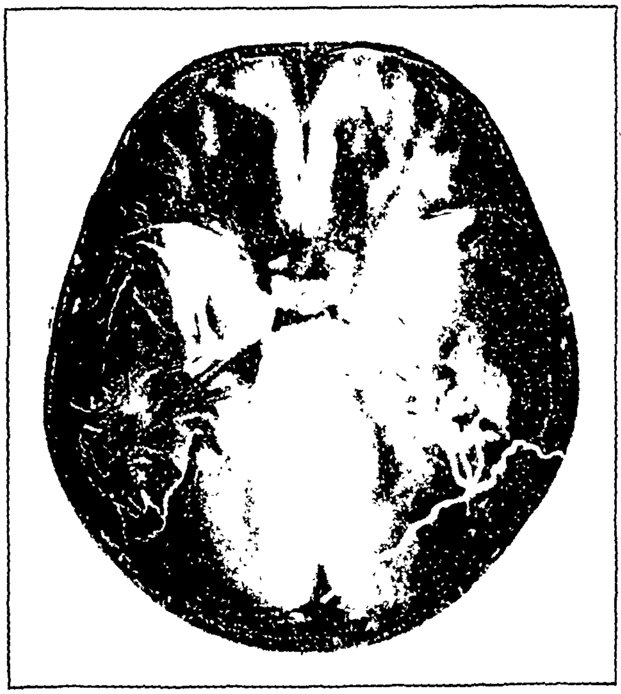

Fig. 2.—J. A. H., aged 67, male, fell down hatchway. He was conscious; pupils were equal and reacted; pulse was 48; respiration 30. There was a ragged wound of the left occipital region, and fracture of right arm; he was mentally confused (later); knee-jerks were absent. The following day he was stupid, delirious and had hemorrhage from right ear; Erysipelas set in the following day; thirteen days later there was elevated temperature; no localizing symptoms. He gradually grew weaker and died.

Autopsy: There was a large amount of yellowish purulent material spread over the cerebrum, and also over the cerebellum and down the cord. Three ulcerated areas were found at base of right side of the brain; one at base of fundal lobe; one on right side of anterior portion of temporal. The right middle ear was filled with a dark mass of clotted blood. A yellowish thrombus was found in the longitudinal sinus.

If one wishes to make a careful study of this subject he will find many articles by certain eminent authorities taking up exhaustively the different phases of the injuries. The writings of Cushing,[1] Brun,[2] Ballence,[3] Thomas,[4] Walton,[5] Bullard,[6] Hartley[7] and others deal minutely with the diagnosis and surgery of the head, from the viewpoint of the surgeon and neurologist. It is my intention, however, to present the matter from the point of view of the otologist and rhinologist, taking up very superficially the symptoms as they presented themselves in the hospital records and certain interesting facts taken from the autopsy records of cases directly connected with this series. In this manner I hope to present the subject in a condensed form in such a way as to enable the busy practitioners of our specialty to review the subject briefly and to find therein some interesting and instructive points of knowledge which may be useful at some future time.

Desiring to learn more of the subject, I consulted the records of the Boston City Hospital for a period covering seventeen years, and I have a more or less complete record, tabulated and charted, of something over 400 cases, from the study of which I offer the following facts and figures for your consideration:

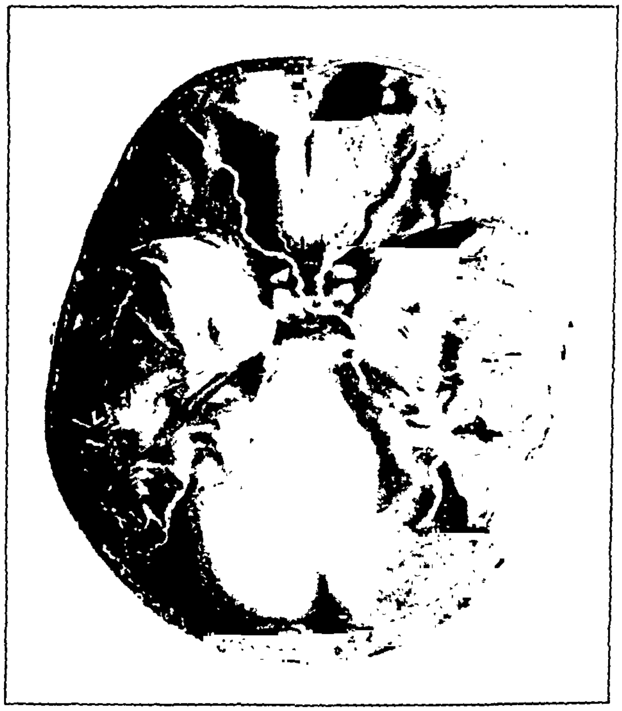

Fig. 3.—G. A. M., male, age not given, fell 10 feet, striking stone steps. When picked up he was unconscious; pupils were dilated, with no reaction. There was a wound over the left frontal region. *He had a slight convulsion*; external sensation lost. He had strabismus and head was contracted to left; there was paralysis of right side of body and face.

Autopsy: There was a moderate amount of blood in the vessels of the pia at the base of the brain; a small amount of reddish, yellowish fluid was found in the lateral ventricle, and there were two small masses of clotted blood in the fourth ventricle. The hemorrhage extended into fissures of Sylvius and Rolando. There was no laceration of brain tissue.

First in order is sensorium. Here, as in other symptoms, we have a wide range of possibilities. We find our patient conscious, unconscious, or in a condition of

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1. Keen's "Surgery," Vol. iii, p. 64-90; The Journal A. M. A., Jan. 16, 1909, p. 184.
2. Beit. zur klin. Chir., 1903, xxxviii, 192.
3. Acland and Ballence: St. Thomas Hosp. Rep., new series, 1894.
4. The Journal A. M. A., July 25, 1908, p. 271.
5. Ann. Surg., 1904, xl, 654.
6. Proc. Mass. Med. Soc., 1902, p. 269.
7. The Journal A. M. A., Jan. 9, 1909, p. 99.

semiconsciousness. In a series of 307 cases in which, in the records, the mental condition was distinctly stated, 168 patients were unconscious and 58 conscious, the remaining 81 being in the intermediate stage of stupor, sluggishness or confused or dazed mentality. The mental condition naturally has a considerable bearing on the severity of the case, and on the treatment and prognosis. Of those patients conscious on admission 13 per cent. died and 87 per cent. were discharged relieved. On the other hand, of those unconscious on admission 51 per cent. died, while of 9 admitted in a comatose state 66 per cent. died, and of those admitted whose mental condition was in the intermediate stages the mortality was comparable to that occurring in unconsciousness.

Next in order of importance comes the examination of the pupillary reactions, a very wide range of conditions existing. The greater number are, strange to say, normal, and it is surprising to note the grave symptoms which may be present with normal pupillary reaction. In 339 individuals 161 had normal pupils, but of those 24 per cent. died. Next in order of frequency are those patients in whom one pupil is dilated, the dilation usually occurring on the side of the injury. As a rule this is not to be regarded as an especially dangerous symptom, my records showing that two-thirds of these patients recovered. On the other hand, when the pupils were unequal and there was no reaction to light, only 27 per cent. recovered. Of 8 individuals in whom the pupils were equally dilated and no reaction was present 7 died. The finding of this symptom, then, should be regarded as a very grave condition. Contraction of one or both pupils is to be regarded as more serious than dilatation. Equal is more common than unequal contraction, and the records show about 50 per cent. of deaths when either occurs.

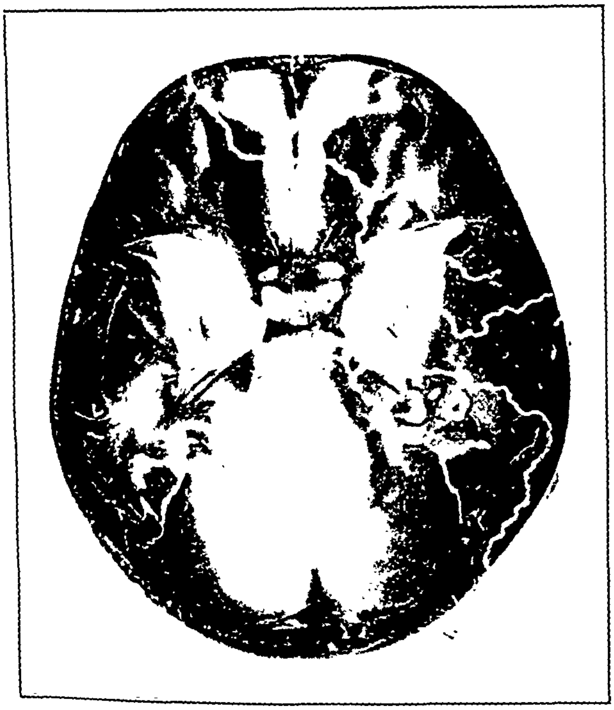

Fig. 4.—W. L., male. There was no external injury; the right pupil was dilated and reaction was sluggish. The man vomited a pint of dark blood, and there was bleeding from the left ear. Pulse was 44. There was no paralysis. Temperature was 96 F. on admission; the following morning it was 102; respiration was shallow. He died from failure of respiration.

Autopsy: Small subdural clot was found over the fissure of Rolando, 2 cm. anterior and posterior. Convolutions of right side of brain were markedly flattened. The surface of the parietal lobe showed two small softened areas; these extended into brain substance 3 mm. There was a clear, watery fluid in the left ventricle. The right middle ear and antrum were filled with clotted blood; the drum was intact.

Decidedly the worst pupillary symptoms which I found noted were wide dilation of one pupil and contraction of the other to a pin point. Eight such instances are recorded and each was followed by death, this being the one symptom which was invariably fatal.

Unfortunately, in the early part of my investigations I failed to appreciate the significance of ecchymosis of the orbital region and of exophthalmos. For this reason I am unable to give figures as to the frequency of these conditions, but, judging from my study of the autopsies and from memory of the cases, I can state that they are commonly found but are not especially important so far as prognosis is concerned.

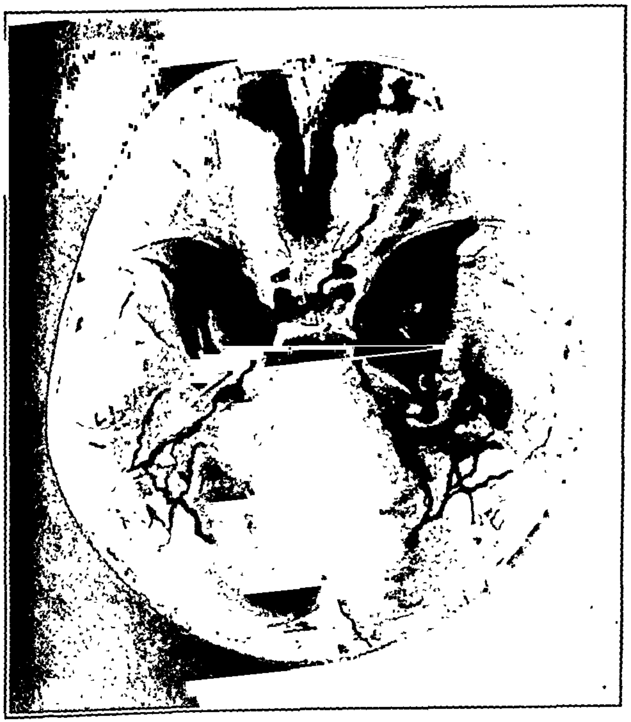

Fig 5.—R. McG., male, age unknown, was struck by electric car. Pupils were equal and did not react; respiration was stertorous and rapid (45); pulse was 60 and knee-jerks were exaggerated. There was no vomiting. The wound was 2 inches long over the right parietal region; there was bleeding from ear. He did not move the left leg; the face and head were turned slightly to the right. His condition was practically hopeless, and he died shortly after admission.

Autopsy: There was considerable subarachnoid hemorrhage over the entire area. There was laceration of the tip of the frontal lobe, and of both temporosphenoidal lobes; there was also hemorrhage into right side of posterior portion of the pons.

We are led to believe that a slow pulse rate is perhaps the cardinal symptom of intracranial involvement, and I had expected to find it present in the majority of cases, only to be greatly surprised at finding it otherwise. In over 400 cases in which the pulse was distinctly recorded I find it to be below 60 in only 14. To be sure, it was between 60 and 70 in 30 cases, but this could hardly be said to be an especially slow pulse. It was between 40 and 45, three; between 45 and 50, five, and between 50 and 60, eight times. Thus, comparing these figures with the entire number it is seen that the pulse was below 60 in a trifle over 4 per cent. of the cases.

Cushing[1] regards the slow bounding pulse as an effort on the part of Nature to overcome anemia of the brain and that it is instrumental in saving the patient's life.

Efforts have been made to reduce the pressure of the pulse by venesection or lumbar puncture, but this procedure is not endorsed by Cushing, instances of either sudden death or markedly weakened condition of the patient, following the procedure, being cited. It seems to me that the reason why slow pulse is not more often found in this class of cases is because the pressure is usually more uniform over the surface of the brain than it is in the case of abscess, tumors, etc.; also the lesions in fractures of the base are usually superficial and extend over wide areas; whereas in tumors, encapsulated abscess, etc., the areas under pressure are deeper and much more sharply defined. Again, the pressure from hemorrhage is liable to be well forward in the temporosphenoidal lobes.

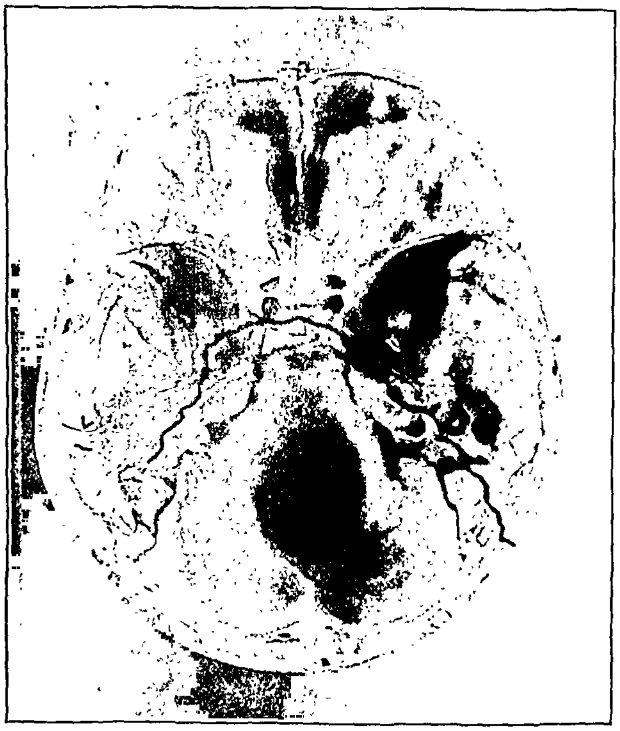

Fig. 6. —M. S., male, was found unconscious on sidewalk, assaulted. Pulse was 100; pupils were equal and reacted; reflexes were normal. There was bleeding from left ear and a slight lacerated wound of right auricle. He vomited several times. Temperature was 103 F. Four days later temperature was 104 F., and the man died.

Autopsy showed a firm dark blood clot in cortex of brain (temporosphenoidal lobe), with contusion and softening of frontal and temporal lobes. The bruised areas were covered with blood clots. The ventricles were normal.

Slow pulse may develop after admission of the patient to the hospital and when present denotes either the beginning of meningitis, extension of hemorrhage backward and inward, or an increase of the cerebral fluids in the deeper parts of the brain.

On the other hand, a rising pulse is a distinctly bad symptom, denoting either failure on the part of Nature to maintain the cerebral circulation against increasing pressure or absorption into the circulation of infection from the cranial cavity. In the first instance anemia of the brain from pressure will soon cause death from failure of the respiration; in the second, naturally, death comes from toxemia and exhaustion.

In the majority of cases death is caused by pressure resulting in failure of the respiration, there being a number of cases on record in which the heart continued beating several hours after respiration ceased, the patient having been kept alive during the interim by artificial respiration.

In 80 per cent. of the cases in this series the pulse ranged between 70 and 100, and in 15 cases the records spoke of it as being slow, but did not mention the number of beats.

Temperature ranged from 95.1 to 110.8 F. In five cases it was subnormal and the patients died in a few hours. The high temperature mentioned occurred just before death and was subnormal at the time of admission. In three of such cases, just prior to death, the temperature rose to 107, 108.5, and 110.8 F., respectively. Elevation of temperature occurred a number of times from outside causes, such as pneumonia, erysipelas, septic wounds, and once from the prosaic cause of measles. On the whole, except for marked cases of meningitis, the temperature did not seem to play an especially important rôle.

Respiration is the most important symptom to be considered, for it was the failure of this function which usually caused death. I found the records gave the respiration as stertorous in 41 cases, as rapid and labored in 7, as slow and labored in 5, as slow in 5, irregular in 4, Cheyne-Stokes in 3, blowing in 1, infrequent in 1, and gasping in 1. Many of those patients, however, recovered.

Vomiting, another cardinal cerebral symptom, was not especially prominent. I find it mentioned in 55 cases, but in only 5 was it persistent or considerable. In many cases it consisted simply in the vomiting of blood once or twice, with no return throughout the case. Once there was nausea without vomiting.

Convulsions are referred to 25 times throughout the records. In 3 they were general; in 11 one-sided; in 8 they occurred at or near death, and in one they were limited to a continuous winking of the right eyelid. A number of patients having convulsions recovered.

Facial paralysis occurred in 24 cases. It suddenly came on from two to ten days after admission, though in a few it was present on admission. As a symptom it was much the same as when resulting from other causes, and was persistent, being present at the time of discharge of patient from the hospital. In fact, of all the nervous manifestations in many cases it was the last to be recovered from.

Delirium is common, varying from very mild to almost maniacal attacks. It occurred in both mild and severe cases. This is not strange, considering the class of people most of the patients represent and the frequent abuse of alcoholic liquors among them. Children and some women developed great mental excitement without active delirium. Delirium in the records is especially mentioned in thirty-three cases.

The nervous symptoms of this particular series of cases have previously been reported in detail by Dr. J. J. Thomas.[4]

Age is of no special importance and of little use in prognosis, except in young children. Here we find the most spectacular injuries with recovery. A number of young children appear in the series with a history of falling from second, third and fourth-story windows; as having been struck by automobiles, fire engines, express wagons, etc.; but these young patients recovered, in many instances, in a surprisingly short time. It occasionally happened, however, that the shock was too great for even the soft cranial bones of childhood. Vomiting is more common on the whole among children than in adults. This symptom is especially present soon after the accident and occurs in many children who ultimately recover. It must always be borne in mind that in all fractures of the skull alarming symptoms may develop at any moment, even when the case appears simple and uncomplicated, and I wish to mention here a case of importance, illustrating the extreme need of keeping patients quiet and under observation after such injuries. A child was brought to the hospital after having fallen from a second-story window, having landed on a brick pavement. It had all the symptoms of extreme shock and was treated for the condition in the usual way. In a very short time it had apparently recovered. In fact, the improvement was so rapid the question was raised as to changing the original diagnosis of "fracture of the base of the skull" to "concussion of the brain." A day or so later the parents removed the child from the hospital, against the advice of the surgeons. Shortly afterward the child was returned to the hospital with decided symptoms of meningitis, from which it died in a few days, and at the autopsy the base of the skull was found fractured in every direction. Had the unfortunate child been allowed to remain quietly in the hospital she might have recovered and have been little or no worse for the injury.

Autopsy records offer valuable information to those who are not especially familiar with the subject. Here we find indisputable evidence of the extent of these particular injuries.

Both tumors and encapsulated abscesses are bodies of definite dencity and form. In hemorrhage we have a softer body to contend with, and consequently a different group of symptoms, notwithstanding the fact that the location is often identical.

Hemorrhage with or without clot does not appear to cause such definite symptoms as do tumors and abscesses. On first thought this seems strange, but the difference is explained by autopsy findings. Both tumors and abscesses are usually well embedded in the brain tissues; hemorrhage and clots, on the other hand, spread themselves over a considerable surface. The pressure of a tumor or a tense abscess may be likened to the pressure obtained from placing a marble, or even a billiard ball, within the skull. The pressure from free blood, or from a clot, might be compared to that of a pad of rubber or folded gauze. This I regard as the reason why marked cerebral vomiting, slow pulse and choked disc are not more generally found in these cases. In my studies of 35 autopsies I found it common to have an entire lobe of the brain compressed over its whole external surface. This condition is illustrated in (Fig. 4). Occasionally an entire hemisphere is under compression, and one or two cases show pressure from flattening of the hemispheres on both sides of the brain.

Consider for a moment the terrible pain which would arise from pressure of clots sufficient to compress the entire external surfaces of the hemispheres of both sides of the brain. In this particular instance the pressure assumed the action of the jaws of a vise, squeezing equally from each side toward a central point.

Hemorrhages or clots are found in nearly every possible area within the skull, in certain localities, however, much more commonly than in others, being noted in the greatest number over the temporosphenoidal and frontal lobes. Extradural hemorrhage is less often found than intradural; this is because of the rigid attachment of the dura to the bone and the lack of large vessels outside it. When extradural hemorrhage occurs, however, it comes either from venous hemorrhage from the diploetic bone, or else it finds its way through a rupture or tear in the dura, being internal in its origin. Hemorrhage occasionally is found in the deeper areas of the brain, in the ventricles, and even has been found in the spinal canal, though such cases are rare.

Contusions of the brain are more or less common and occur most frequently in the temporosphenoidal and frontal lobes. Lacerations are more often found and may occur in any of the lobes, one record even showing laceration of the cerebellum (Figs. 2 to 5).

If the brain tissue has been under pressure for any length of time we find areas of softening present, the extent varying from small spots to quite large areas, as shown in Figures 1 to 4 and 6, one case showing a softened condition of the entire base of the brain.

Infected areas of the lobes are occasionally found, and in this class we find practically only the temporosphenoidal and frontal lobes involved. Infected fluid within the dura is more common and was present in four cases, and an autopsy diagnosis of meningitis was made in three of these. Pus was found in the middle ear once and a pus pocket just outside the sella turcica once.

Blood was present in the middle ear and mastoid four times (Figs. 1, 2 and 4); in the lateral ventricle once. Excess of fluid was found in the lateral ventricle in five cases. Bloody fluid was present in four, pus in two and fluid blood in one. Blood was also found in the nose in one case (Fig. 1) and in the mouth in one.

Rupture of the middle meningeal artery was found twice and rupture of its anterior branch twice. Rupture of the lateral and longitudinal sinuses has been found at autopsies, but was not present in this series.

Edema of the brain occurred but once.

Irregularity of pupils was present in three cases and the pupils were equally dilated in one (Fig. 5). Exophthalmos was present but once in the autopsies.

Within the year The Journal of the American Medical Association has published articles by McKernon[8] and Coakley[9] dealing with intracranial infections from the ear and nose. A study of the two articles will show certain marked contrasts between lesions produced by the invasion of infection from the ear and nose and those of fractures of the skull, where, in the majority of cases, pressure from hemorrhage was the predominating factor.

The treatment of these cases, at the present time at least, is the field of the general surgeon. Many of these patients recover, from 15 to 25 days being the usual period of confinement in the hospital. The mortality in those patients requiring surgical measures in fracture of the vault is comparatively small, but in those with fracture of the base it is very high.

I have purposely omitted the subject of deafness from this paper. It is practically impossible to examine the hearing of these patients for some days after admission to the hospital because of unconsciousness or great prostration. It is my intention, however, to make a special study of this particular phase of the subject and to report it in detail at some future time.

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[8] The Journal A. M. A., Jan. 9, 1909, p. 102.
[9] Id., p. 108.

tuning fork test will, of course, show whether the fracture extends into the petrous portion or not. When I was an interne I made systematic examinations of all the fractures and found seven patients admitted for fracture of the base of the skull in the course of a year in whom there was no fracture of the base whatever, but fracture of the canal. These are the patients who recover with few symptoms and with perfect hearing. The condition is much more common than is supposed.

Dr. J. Holinger, Chicago: It is text-book knowledge that in these cases of injury with loss of blood through the external auditory canal we should be careful not to inject solutions of water into the ear. In this connection I can report one case for and one against this teaching. In the first case, a man fell into a vat and was taken up unconscious; he was taken to Alexian Brothers Hospital with a slow pulse and discharge of blood from the ear. After washing the ear very carefully I noticed a white mass in the depth of the canal. It was removed with the syringe and put under the microscope, where it proved to be the cholesteatoma. While syringing as a rule is contraindicated in fracture of the base of the skull and hemorrhage from the ear, it saved this patient's life by removing infectious matter from immediate contact with the fracture line. This patient recovered with complete loss of hearing. The other case is that of a patient who fell down a steep embankment together with his team and wagon. He regained consciousness after being home forty-eight hours. He called in the family physician, who advised dropping boracic acid solution in the ear. I saw him about a week later, when he was suffering from severe headaches, extreme restlessness, vomiting, and was very ill. My diagnosis was beginning meningitis. The ear was dried carefully, all instillations were discontinued and considerable doses of morphin were given in order to secure rest and quiet; and from that night he improved. I heartily endorse Dr. Borden's suggestion of giving morphin to patients in the first stages of traumatic meningitis.

Dr. J. J. Kyle, Indianapolis: What is Dr. Borden's experience with the decompression operation when the lesion is in the center of hearing? A few weeks ago I had an interesting case in which a young boy was struck on the left side of the head with a baseball bat. There was complete loss of hearing and loss of speech. A decompression operation was done and when he came out of the anesthetic he began to talk. He lived seventy-eight hours and then died very suddenly. I think that we shall be called in now more and more in these cases to differentiate between labyrinthine deafness following injury to the head and central deafness.

Dr. S. MacCuen Smith, Philadelphia: It is natural, when we have bleeding from the ear, to assume that it is due to fracture of the base, but I am inclined to believe that in many of those patients who recover, though they bleed freely, the bleeding is due to separation of the Glaserian fissure. This was first pointed out by Albert Buck, and I have collected some data which would seem to indicate that a fair percentage of these cases are due to separation of this fissure.

Dr. E. A. Crockett, Boston: In the case I spoke of the rupture could be clearly seen in the lower part of the canal. I have never seen a fracture of the upper part.

Dr. J. M. Foster, Denver: Our statistics in regard to the question of injury to the organ of hearing are not very extensive because most of the cases are treated by the general surgeon. I have a case to report in which the injury was so extensive that few surgeons have seen such a case recover. While a young woman was riding horseback her horse reared and fell back on her. Her head came in contact with the ground and the saddle or head of the horse struck her on the malar bone. The blow broke the skull through. The *x*-ray showed that the fracture started in one ear, went up through the orbit; through the bridge of the nose, through the orbit on the other side and through that ear. The fracture practically separated the upper from the lower part of the head. There was a distinct separation of the roof of the nose and slight movement between the upper and lower portions of the face. She had profuse hemorrhage from the nose, as well as from the right ear. The face was swollen and elongated. The treatment was absolute quiet, the ear being treated simply by packing with sterile gauze in the canal. After a few days the discharge turned into a distinctly serous fluid that I supposed was from the brain. The fracture finally healed without suppuration and hearing became practically normal. The eye symptoms were very marked; absolute immobility of the eyes from the start. The left eye never regained sight; atrophy of the optic nerve occurred. The eye muscles regained their function. The right eye regained perfect vision, but only the internal rectus muscle regained its strength. It was only after twelve months and by doing a tenotomy and advancement that the eye was gotten into the primary position. That the patient should have lived at all was marvelous.

Dr. George E. Shambaugh, Chicago: There is one phase of this subject discussed by Dr. Borden especially interesting to otologists. This is the question of the disturbance in hearing from such injuries: the character of the disturbance, and the degree of deafness. Persons injured in this way, especially in railroad accidents or the employés for corporations which may be held responsible, ofttimes wish to get damages for their injuries, and it is not uncommon for malingering to be detected in cases of this sort. If the patient claims to be totally deaf in both ears, it may be an exceedingly difficult problem for one to detect a malingerer of this kind. Usually, however, these patients claim to have had the hearing destroyed in but one ear, and in these cases if we go at the examination carefully, we seldom fail to detect them in falsehoods. For example, when they stop up the hearing ear they will usually assert positively that they can not hear at all any sounds, spoken voice or tuning forks. Of course we know that it is impossible to shut out sounds in this way from a normal hearing ear. In making the examination with tuning forks for bone conduction, these patients will usually make the mistake which has been made in the discussion here this morning, by stating that the bone conduction on the affected side is much reduced from what it is on the normal side. As a matter of fact, while the Weber test is usually lateralized in these cases in the normal ear, the actual duration of the bone conduction, in applying the Schwabach test from both mastoids in cases in which there is total deafness in one ear and normal hearing on the opposite side, will differ but little and often not any.

Dr. Otto Glogau, New York: I examined ten cases of fracture of the base of the skull going through the labyrinth in Mount Sinai Hospital Dispensary and found that most of the patients had less disturbance of the acoustic than of the static apparatus. One had a fracture going right through the acoustic apparatus and the high tuning fork could not be heard in the ear at all and bone conduction was lessened on the fractured side. In this case, the fracture went through the corda tympani and facialis. The patient had dizziness and nystagmus to the sound side. In another case the patient had been knocked down by an automobile and suffered a fracture of the base of the skull. He did not perceive tuning forks on his left ear. Weber test to the right (sound) side, no bone conduction on the side of the fracture, spontaneous nystagmus directed to the sound side, warm water nystagmus to the affected side, much dizziness, disturbance of equilibrium, and paralysis of the corresponding left facial nerve. In court one physician testified that the patient had only an old ear catarrh and that there was no connection between his ear trouble and the trauma he had suffered.

Dr. George E. Davis, New York: In regard to the question, elicited in the discussion, as to the differential diagnosis between simple nerve deafness and labyrinthine deafness, due to direct traumatism and infection, the functional tests for the reactions of the static labyrinth definitely decide, and of these probably the caloric test is the most reliable and is very convenient. In labyrinthine deafness, especially of traumatic origin, the static labyrinth is almost always, if not primarily, secondarily involved, and, therefore, we would expect the functional tests, whether caloric, turning, or galvanic, to prove negative; whereas in nerve deafness the static labyrinth usually remains intact and the same tests would prove positive. From a forensic point of view, this differentiation is of great importance in case of malingering. Moreover, in malinger-

In closing I wish to thank the surgeons of the Boston City Hospital for the use of their records, and that institution itself for the great mass of material it has furnished me for study.

The following are some statistics of the cases:

SENSORIUM

Conscious:		Unconscious:	
Relieved	52	Relieved	63
Dead	4	Dead	105
Semiconscious:		Dazed, drowsy or stupid:	
Relieved	27	Relieved	20
Dead	15	Dead	18
Comatose:			
Relieved	3		
Dead	6		

PUPILS

Normal:		Dilated equally, no reaction:	
Relieved	119	Relieved	4
Dead	38	Dead	7
Dilated equally, reaction normal:		Unequal dilation, reaction normal:	
Relieved	1	Relieved	47
Dead	1	Dead	19
Unequal dilation, no reaction:		Widely dilated, no reaction:	
Relieved	16	Relieved	1
Dead	38	Dead	8
Contracted equally:		Contracted unequally:	
Relieved	8	Relieved	..
Dead	7	Dead	2
One pupil dilated, other contracted to a pinpoint:			
Relieved	0	Dead	8
Divergent Strabismus	1	Convergent strabismus	1
External strabismus	1	Irregular pupil	2
Hemorrhage from the eye	1		

NYSTAGMUS

Relieved (slight)	1	Dead	4

PULSE

Under 40	1	90 to 100	16
40 to 45	3	100 to 110	15
45 to 50	4	110 to 120	7
50 to 60	8	120 to 160	13
60 to 70	30	Slow, rate not recorded	15
70 to 80	31	Pulseless	1
80 to 90	27		

TEMPERATURE

Normal	351	104	3
99	7	105	2
100	6	107	*1
101	4	108.5	*1
102	2	110.8	*1
103	4		

* Few hours prior to death.

Subnormal on admission:

95	1	(died few hours later)
96	2	(died few hours later)
97	4	(died few hours later)

RESPIRATION

Stertorous	41	Cheyne-Stokes	3
Slow and labored	5	Slow	5
Rapid and labored	7	Infrequent	1
Irregular	4	Gasping	1

Many of the above recovered.

VOMITING

Number having this symptom present	55
Number having persistent vomiting	5
Nausea without vomiting	1

CONVULSIONS

Number noted in the records	25
General	3
One-sided	11
At or near death	8
Continuous winking of right eyelid	1

A number of patients having convulsions recovered.

HEMORRHAGE FROM EAR

From one ear only	231
From both ears	29
Hemorrhage from one or both	260

TOTAL CASES RECORDED

Fracture of the base of the skull	346
Fracture of the vault of the skull	62
Total	408

AUTOPSIES (35 cases)

CLOTS OR HEMORRHAGE

Intradural	20	In spinal canal	1
Extradural	10		

FLATTENING OF LOBES FROM PRESSURE

Temporo-sphenoidal	9	Both hemispheres	1
Frontal	5	Right hemisphere	1
Occipital	2	Entire base	1
Parietal	1		

AREAS OF SOFTENING

Frontal	0	Entire base	1
Temporo-sphenoidal	5	Cerebellum	2
Parietal	2		

EXCESS OF FLUID IN LATERAL VENTRICLE (FIVE CASES)

Bloody fluid in lateral ventricle	4
Pus in lateral ventricle	2
Free blood in lateral ventricle	1

FRACTURES OF THE BONES OF THE SKULL

Parietal	18	Frontal	5
Squamous portion of temporal	13	Cribriform plate	4
Petrous portion of temporal	12	Lateral sinus	4
Occipital	12	Crista galli	3
Great wing of sphenoid	10	Body of sphenoid	3
Sella turcica	10	Lesser wing of sphenoid	2
Orbit	7	Ethmoid plate	1
		Zygoma	1

CONTUSION OF BRAIN

Temporal lobe	2	Frontal lobe	3

LACERATION OF BRAIN

Frontal lobe	7	Occipital lobe	1
Temporal lobe	7	Cerebellum	1

INFECTIONS

Purulent fluid within the dura	4	Meningitis	3
Infection of temporal lobe	2	Pus in middle ear	1
Infection of frontal lobe	1	Blood in middle ear	3

CONDITIONS OF PUPILS

Irregular Pupils	3	Dilated and equal	1

484 Beacon Street.

ABSTRACT OF DISCUSSION

Dr. J. F. Barnhill, Indianapolis: I have seen a few cases of fracture of the base of the skull in which there was hemorrhage from the external auditory canal, cases with such symptoms, so far as I can judge, as have been described by Dr. Borden, but I had no opportunity to make postmortems in any of them. The cases that interested me most were in children. I have seen two cases in children in which there was hemorrhage from the external auditory meatus. In one the hemorrhage was so severe that it was impossible to check it except by firmly tamponing the external auditory canal. Children react from these injuries marvelously well. Both of these children were unconscious for several hours and both suffered profound shock. One had irregular pupils. But both recovered as rapidly as it would be possible to recover from any other serious injury. In one, as soon as the hemorrhage was checked I found a large rupture of the drum membrane which extended through the posterio-superior portion of the drum head and through the neck of the malleus. It is possible that in this case there was no fracture of the base of the skull, because the child recovered so rapidly from what appeared to be so severe an injury.

Dr. C. F. Welty, San Francisco: Shortly after the fire in San Francisco we had a great number of accidents and many of these cases. There were 29, 8 of which were mine. Diagnosis of fracture of the base of the skull was based on the tuning fork tests with greatly lessened bone conduction in the ear of the injured side in comparison with the other. Of this number there were 7 cases that went on to discharge of pus from the ear and there was one in which facial paralysis existed as long as the pus continued to discharge, and as soon as the ear was made thoroughly clean the paralysis cleared up. Six of the cases required operative interference on the mastoid. These patients with fracture of the base that have the slightest possible indication of mastoid involvement should be operated on. All these patients recovered.

Dr. E. A. Crockett, Boston: One type of traumatic injury to the ear which we should always have in mind and which is extremely difficult to differentiate from a fracture of the base is fracture of the bony portion of the external auditory canal, and associated with it rupture of the drum head. It is more common, in my experience, from blows on the point of the chin. The symptoms are very confusing on first glance, but on examining the ear one finds a distinct line of fracture of the outer canal beginning at the bony portion and running down to or through the drum. Such patients will have symptoms of surgical shock and hemorrhage from the ear. The tuning fork test will, of course, show whether the fracture extends into the petrous portion or not. When I was an interne I made systematic examinations of all the fractures and found seven patients admitted for fracture of the base of the skull in the course of a year in whom there was no fracture of the base whatever, but fracture of the canal. These are the patients who recover with few symptoms and with perfect hearing. The condition is much more common than is supposed.

DR. J. HOLINGER, Chicago: It is text-book knowledge that in these cases of injury with loss of blood through the external auditory canal we should be careful not to inject solutions of water into the ear. In this connection I can report one case for and one against this teaching. In the first case, a man fell into a vat and was taken up unconscious; he was taken to Alexian Brothers Hospital with a slow pulse and discharge of blood from the ear. After washing the ear very carefully I noticed a white mass in the depth of the canal. It was removed with the syringe and put under the microscope, where it proved to be the cholesteatoma. While syringing as a rule is contraindicated in fracture of the base of the skull and hemorrhage from the ear, it saved this patient's life by removing infectious matter from immediate contact with the fracture line. This patient recovered with complete loss of hearing. The other case is that of a patient who fell down a steep embankment together with his team and wagon. He regained consciousness after being home forty-eight hours. He called in the family physician, who advised dropping boracic acid solution in the ear. I saw him about a week later, when he was suffering from severe headaches, extreme restlessness, vomiting, and was very ill. My diagnosis was beginning meningitis. The ear was dried carefully, all instillations were discontinued and considerable doses of morphin were given in order to secure rest and quiet; and from that night he improved. I heartily endorse Dr. Borden's suggestion of giving morphin to patients in the first stages of traumatic meningitis.

DR. J. J. KYLE, Indianapolis: What is Dr. Borden's experience with the decompression operation when the lesion is in the center of hearing? A few weeks ago I had an interesting case in which a young boy was struck on the left side of the head with a baseball bat. There was complete loss of hearing and loss of speech. A decompression operation was done and when he came out of the anesthetic he began to talk. He lived seventy-eight hours and then died very suddenly. I think that we shall be called in now more and more in these cases to differentiate between labyrinthine deafness following injury to the head and central deafness.

DR. S. MACCUEN SMITH, Philadelphia: It is natural, when we have bleeding from the ear, to assume that it is due to fracture of the base, but I am inclined to believe that in many of those patients who recover, though they bleed freely, the bleeding is due to separation of the Glaserian fissure. This was first pointed out by Albert Buck, and I have collected some data which would seem to indicate that a fair percentage of these cases are due to separation of this fissure.

DR. E. A. CROCKETT, Boston: In the case I spoke of the rupture could be clearly seen in the lower part of the canal. I have never seen a fracture of the upper part.

DR. J. M. FOSTER, Denver: Our statistics in regard to the question of injury to the organ of hearing are not very extensive because most of the cases are treated by the general surgeon. I have a case to report in which the injury was so extensive that few surgeons have seen such a case recover. While a young woman was riding horseback her horse reared and fell back on her. Her head came in contact with the ground and the saddle or head of the horse struck her on the malar bone. The blow broke the skull through. The *x*-ray showed that the fracture started in one ear, went up through the orbit; through the bridge of the nose, through the orbit on the other side and through that ear. The fracture practically separated the upper from the lower part of the head. There was a distinct separation of the roof of the nose and slight movement between the upper and lower portions of the face. She had profuse hemorrhage from the nose, as well as from the right ear. The face was swollen and elongated. The treatment was absolute quiet, the ear being treated simply by packing with sterile gauze in the canal. After a few days the discharge turned into a distinctly serous fluid that I supposed was from the brain. The fracture finally healed without suppuration and hearing became practically normal. The eye symptoms were very marked; absolute immobility of the eyes from the start. The left eye never regained sight; atrophy of the optic nerve occurred. The eye muscles regained their function. The right eye regained perfect vision, but only the internal rectus muscle regained its strength. It was only after twelve months and by doing a tenotomy and advancement that the eye was gotten into the primary position. That the patient should have lived at all was marvelous.

DR. GEORGE E. SHAMBAUGH, Chicago: There is one phase of this subject discussed by Dr. Borden especially interesting to otologists. This is the question of the disturbance in hearing from such injuries: the character of the disturbance, and the degree of deafness. Persons injured in this way, especially in railroad accidents or the employés for corporations which may be held responsible, ofttimes wish to get damages for their injuries, and it is not uncommon for malingering to be detected in cases of this sort. If the patient claims to be totally deaf in both ears, it may be an exceedingly difficult problem for one to detect a malingerer of this kind. Usually, however, these patients claim to have had the hearing destroyed in but one ear, and in these cases if we go at the examination carefully, we seldom fail to detect them in falsehoods. For example, when they stop up the hearing ear they will usually assert positively that they can not hear at all any sounds, spoken voice or tuning forks. Of course we know that it is impossible to shut out sounds in this way from a normal hearing ear. In making the examination with tuning forks for bone conduction, these patients will usually make the mistake which has been made in the discussion here this morning, by stating that the bone conduction on the affected side is much reduced from what it is on the normal side. As a matter of fact, while the Weber test is usually lateralized in these cases in the normal ear, the actual duration of the bone conduction, in applying the Schwabach test from both mastoids in cases in which there is total deafness in one ear and normal hearing on the opposite side, will differ but little and often not any.

DR. OTTO GLOGAU, New York: I examined ten cases of fracture of the base of the skull going through the labyrinth in Mount Sinai Hospital Dispensary and found that most of the patients had less disturbance of the acoustic than of the static apparatus. One had a fracture going right through the acoustic apparatus and the high tuning fork could not be heard in the ear at all and bone conduction was lessened on the fractured side. In this case, the fracture went through the corda tympani and facialis. The patient had dizziness and nystagmus to the sound side. In another case the patient had been knocked down by an automobile and suffered a fracture of the base of the skull. He did not perceive tuning forks on his left ear. Weber test to the right (sound) side, no bone conduction on the side of the fracture, spontaneous nystagmus directed to the sound side, warm water nystagmus to the affected side, much dizziness, disturbance of equilibrium, and paralysis of the corresponding left facial nerve. In court one physician testified that the patient had only an old ear catarrh and that there was no connection between his ear trouble and the trauma he had suffered.

DR. GEORGE E. DAVIS, New York: In regard to the question, elicited in the discussion, as to the differential diagnosis between simple nerve deafness and labyrinthine deafness, due to direct traumatism and infection, the functional tests for the reactions of the static labyrinth definitely decide, and of these probably the caloric test is the most reliable and is very convenient. In labyrinthine deafness, especially of traumatic origin, the static labyrinth is almost always, if not primarily, secondarily involved, and, therefore, we would expect the functional tests, whether caloric, turning, or galvanic, to prove negative; whereas in nerve deafness the static labyrinth usually remains intact and the same tests would prove positive. From a forensic point of view, this differentiation is of great importance in case of malingering. Moreover, in malingering, we can bring to our aid, in addition to the above tests for the reactions of the static labyrinth, the functional hearing tests by means of tuning forks. Malingering of one-sided deafness is readily detected by the Stinger test with the Bezold-a forks.

Dr. C. R. C. Borden, Boston: I know of nothing in the entire field of medicine or surgery that offers such spectacular cases as fractures of the base of the skull. We get them in all degrees of severity, and in many the injury does not seem at all in proportion to the symptoms that follow. Among the records I have studied was that of a boy struck by an express train traveling at a high rate of speed. He was thrown many feet, picked up and brought into the hospital in an unconscious condition, and one would naturally suppose that he would not recover, but in two or three days he was in fairly good condition.

In regard to the hemorrhage from the ear, in the average case it is usually fairly easy to find the bleeding point within the canal. It may be in any portion of the meatus, or in the drum membrane, appearing as a ragged tear. Some patients bleed so profusely that it is impossible to find the point of hemorrhage. In the majority of cases there is a fracture, and it is unwise to assume that there is not a fracture of the base, because the symptoms are not profound. In these 408 cases there are a number in which the first treatment was given by a family physician who failed to realize the importance of the injury and treated it lightly, allowing the patients to go about, and within a few days the patients were brought to the hospital with very grave symptoms, and in certain cases died later.

The blow on the chin that has been referred to, we have seen often, as a result of fist fights. Dr. Holinger spoke of thinking he had found brain mass in the bottom of the ear; it has been found several times in the hospital, and in one of the cases there was recovery following it.

As to decompression, these cases are in the hands of the general surgeon and we see them only as a matter of courtesy. Judging from what I have been able to gather, unless the symptoms are aggravated and urgent, it is a safer plan to depend on quiet and rest. The operation for decompression has resulted many times in hernia of the brain, which is often difficult to control. Nothing except tumor causes greater pressure than trauma of this kind. Of course, certain symptoms demand operation, but usually only as a last resort. The ear should always be kept clean, and I am inclined to think that more infection comes from the nose than from the ear.

TUBERCULOSIS OF THE LARYNX

THE TYPE WHICH IS CAPABLE OF RECOVERY OR ARREST AND THE PRINCIPLES OF TREATMENT *

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CHICAGO

I. THE NON-RESISTANT TYPE

On the principle that an overpowering, though often erroneous, impression is produced by tragic events, our common conception of tuberculosis of the larynx is drawn from its harrowing course in about two-fifths of the cases which, collectively, for contrast, I designate the non-resistant type and which is characterized by a speedy development, persistent progress and rapidly fatal termination. Out of a total of 60 cases of private record, these qualities pertained to a group of 24, or 40 per cent., in all of which death ensued in less than an average of one year from first observation and in less than two years from the first remembered symptom of the laryngeal complication. A classical laryngeal image of the disease is presented in Figure 1, sketched from nature in the person of one of this group.

It will not, therefore, seem inappropriate as the argument proceeds that tuberculosis of the larynx which has proved capable of healing or arrest should be designated as a type, for, while Heryng, Krause and Lake have dwelt on its surgical curability in isolated instances, I seek to establish for laryngeal tuberculosis what is now well known with respect to the pulmonary affection, the fact that in certain patients Nature develops an adequate resistance, sufficient of itself to arrest the disease, and that in certain other patients Nature develops an almost but not quite adequate resistance which, when persistently reinforced by the best methods of our art, then suffices to arrest the disease.

II. THE HOPEFULLY RESISTANT TYPE

Twenty-two cases, or two-fifths of the total series, compose a second group in which the laryngeal tuberculosis ran a much slower course, the natural resistance of the patient having been sufficient to effect temporary amelioration and arrest, but usually in the end having fallen short of permanent arrest. Of this number, 8 are accurately known to have succumbed, but only after from three to seven years, and 12, when last observed, were obviously doomed, also having survived through their own inherent resistance, with but desultory aid, for from three to seven years. This brings the mortality of the entire series to 80 per cent., but the cloud is not without its silver lining, for, in addition to the third group, that of permanent arrests which will take up the other 20 per cent., there remain two cases of this second group which by aid of modern methods and suitable habits of life have now almost, if not quite, reached a state of permanent arrest.

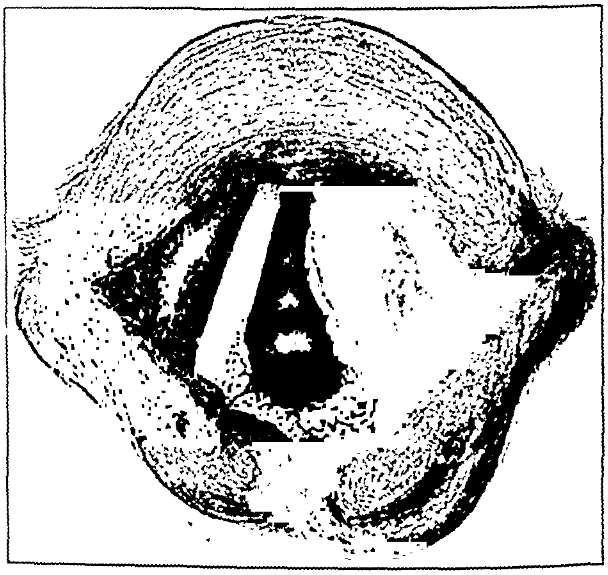

Fig. 1.—A classical image of tuberculosis of the larynx; case of Miss A. C., non-resistant type.

Case 1.—The condition of the larynx in one of these as sketched at its worst nearly three years ago, is shown in Figure 2, in which, bearing on the diagnosis, it should be observed by comparison that, aside from a unilateral predominance, the lesions are identical in kind with those in Figure 1, which in turn was selected from the nonresistant type to represent the classical aspect of tuberculosis of the larynx. The pyriform swelling of the arytenoid is the same in kind although greater in degree; it blends in like manner with another swelling of the interarytenoid fold and blends also with a diffused hyperplasia of the ventricular band. In the angle formed by the attachment of the posterior end of the left vocal cord there is the same sort of flexion fissure with eroded surface from which sprout equally characteristic granulomata. The patient, Mr. E. Z., then aged 44, had first noticed five and one-half years previously a persistent cough with expectoration, which was followed in four months by a hemorrhage and within two years by laryngeal pain on swallowing. His well-nourished appearance, to quote the patient's own phrase, "seemed to belie his disease," and this, together with the unilateral predominance of the lesions in the larynx, which, however, I have observed in the proportion of 1 to 15, suggested unusual care in the diagnosis. The apex of the right lung gave signs of a limited tuberculous deposit. Bacilli were "present, a few to a field"; histologic guinea-pig test was positive. Also the tuberculin test was positive. The patient's weight was 131, representing a loss of eight pounds; pulse 80 to 100; temperature 97 to 99 F. Under treatment at the end of a year (the sixth year of the disease) the laryngeal hyperplasia had diminished, the granulomatous fissure had become merely an irregular crease in a somewhat redundant tissue, the voice had resumed fair service, the pain on swallowing had faded to a vague sense of "something there," and with a gain of sixteen pounds the patient's ratio of weight to height was in excess. At present, in the eighth year of the disease, although the laryngeal hyperplasia is still evident, its inactivity as judged by the lapse of time, with absence of ulceration and freedom from pain or irritation, indicates a state of retrogression approaching but not yet to be classed as a permanent arrest.

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* Read before the Surgical Section of the International Congress on Tuberculosis, Washington, D. C., Sept. 28, 1908.

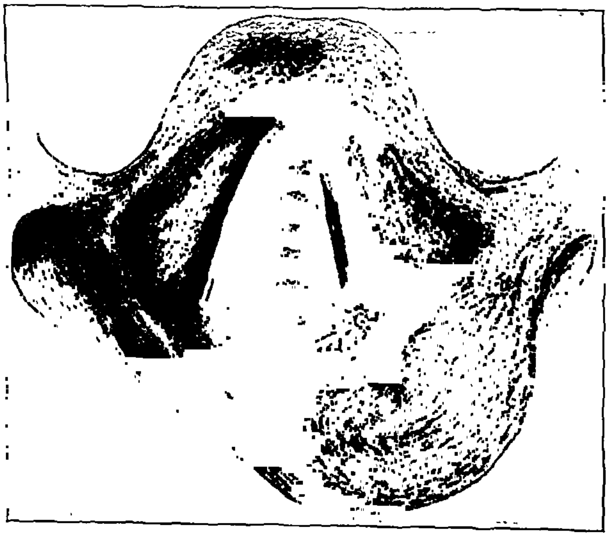

Fig. 2.—Chronic hyperplastic tuberculosis of the larynx of five years' duration; case of Mr. E. Z., hopefully resistant type, now in the eighth year and almost but not quite arrested.

III. THE SUCCESSFULLY RESISTANT TYPE OR THE TYPE CAPABLE OF ARREST

A third group is composed of eleven cases, or nearly 20 per cent. of the series, in which the laryngeal tuberculous lesions are or were in a state of arrest after the lapse of periods varying from four to fourteen years. It is not meant that all of the patients recovered permanently from every phase of tuberculosis, for the very fact that at length some of them have died of tuberculosis of the lungs or other organs will be cited in evidence that the laryngeal complication during its course was of the same nature; but it is meant by the term "arrest" that for a number of years all progression in the larynx has been interrupted and retrogression established as indicated by the cicatrization of the ulcers if any, the gradual lessening of hyperplasia and the cessation of subjective pain and irritation. In order to be fully credited, an allegation of recovery or even arrest from laryngeal tuberculosis must be supported in a manner to overcome both a natural contention of possibility of error in diagnosis and an innate doubt of the permanence of such an "arrest," for it is true that syphilis of the larynx or other tractable condition is liable, exceptionally, to be mistaken for or to coexist with tuberculosis and true also that no period of years is an absolute guarantee against recurrence. Therefore, the pertinent features of the cases of this group will be summarized in a manner designed to render competent the evidence when taken as a whole, even though the future should alter the logic of events with respect to certain of the details.

Four of these patients have been under my own inspection at various periods both before and after the arrest. Persons of this type are able to travel far and wide so that when information at first hand, based on the recorded results of competent examination of the larynx by one and the same observer both before and after arrest, is available and is reasonably conclusive in detail, it should go far toward satisfying any doubt of the disease of the larynx having been a veritable tuberculosis, and toward justifying the use of the term "arrest," as descriptive of the present state of that disease. It happens, however, that two of them, the two perhaps of most importance, have been examined also by Dr. Gildea of Colorado Springs, whose reports cover the intervening periods.

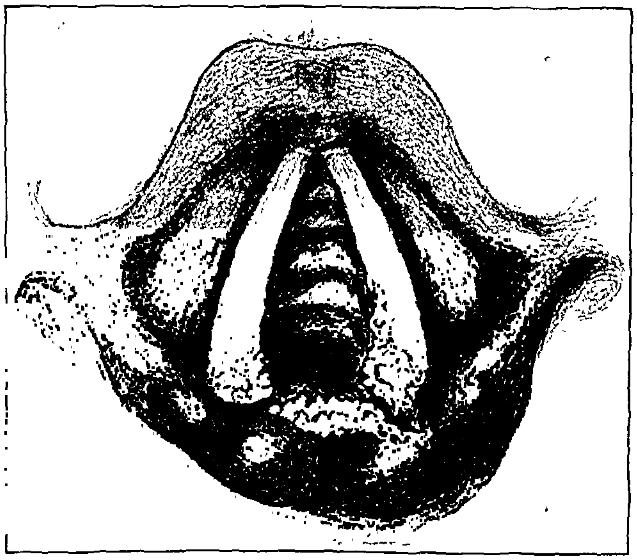

Fig. 3.—Case of the Rev. J. W. D. eight years ago; tuberculosis of the larynx in its second year; now and for five and one-half years in a state of arrest as shown in the next figure.

CASE 2.—One could scarcely doubt the tuberculous nature of the laryngeal lesions, illustrated in Figure 3, as sketched from a patient of this group in January, 1901. The mammillated hyperplasia of the interarytenoid fold, the granulomata on the cords around the vocal processes, the flexion fissure at the junction of the left cord and arytenoid, the "mouse-nibbled" ulceration about the fissure and the pyriform swelling of the arytenoids together form a picture which is absolutely characteristic. It concerned the Rev. J. W. D., who was then 27 years old, having had pulmonary tuberculosis previously for three years and the laryngeal complication for one year. He proved suitable for surgical treatment and received seven thorough sions or curettements, one each month, supplemented by lactic acid frictions running up to 90 per cent. in strength. It is specifically recorded of the fourth curettement that it was directed to the remains of the fissure and adjoining ulceration, and again recorded at the completion of the local treatment, that the granulomatous hyperplasia has been mostly removed and that all broken and ulcerated surfaces were healed. Of course, some deeply seated infiltration remained, but even its retrogression dates from this treatment at the conclusion of which a change of climate to the Rocky Mountain region favored the steady progress toward recovery. A year later Dr. Gildea reported: “All activity in his throat has ceased. . . . Voice fairly clear.” At the end of six years Mr. D. himself reported: “The larynx has been well for four years. Voice fairly strong.” Now, at the end of eight years, Dr. Gildea again reports: “Although much fibrosis in the lungs and a few tubercle bacilli are found, the larynx is absolutely well, the voice being clear and good and the arytenoids normal,” and Dr. Gildea has made a sketch of the larynx, reproduced in Figure 4, which exhibits the present smooth, pearly-white and healed appearance of the same site, shown in the previous illustration to have been so characteristically tuberculous eight years ago. A comparison of the two pictures demonstrates that not merely an arrest but an actual recovery as far as concerns his tuberculosis in the larynx, has taken place.

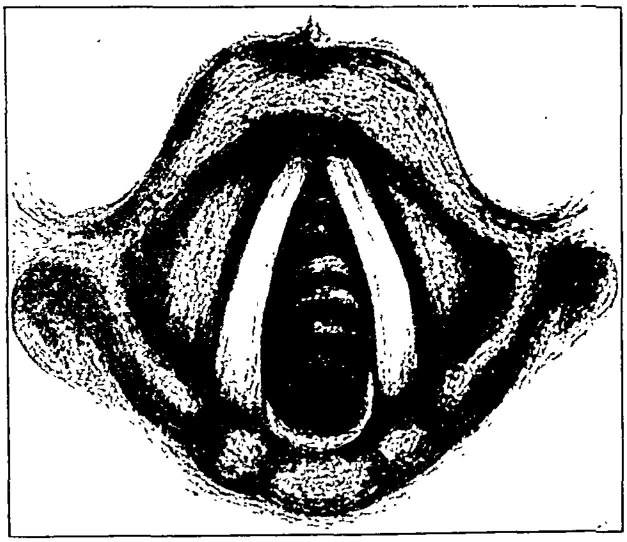

Fig. 4.—Case of the Rev. J. W. D.; now in a state of arrest and showing a smooth scar. Compare with Figure 3.

Summary.—The time from the beginning of the pulmonary tuberculosis has been eleven years. The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of arrest of the laryngeal tuberculosis, with the patient living at this date, has been five and one-half years.

Case 3.—Equally characteristic are the tuberculous lesions depicted in Figure 5, as sketched from nature in the person of Mr. R. A. L. in February, 1900. Again, the granulomatous infiltration centers about the vocal process or point of junction of the vocal cord with the arytenoid, *which is a favorite* site in the larynx for the initial infiltration. A similar flexion fissure is seen to be forming in the pyriform swelling of the arytenoid, but it is as yet without definite ulceration. The conspicuous infiltration of the right side of the epiglottis is shown as embracing also the pharyngo-epiglottic fold, and dotted just under the surface, more plainly visible in the image than in the illustration, were many minute individual tubercles. By reason of this condition of the epiglottis which already caused pain in swallowing, the prognosis at that time seemed especially unfavorable, although in other respects it was hopeful. The patient was 39 years old, having had slowly developing apical pulmonary tuberculosis for six years and the laryngeal complication for one year, the bacilli present being few in number. His weight was 155; pulse 120. His local treatment by curettement and lactic acid I directed especially to the granulomatous focus around the vocal process, which improved under it. The change of climate, after some months, was first to the Rocky Mountain region. On his return in January, 1901, I was surprised to observe that the laryngeal infiltration had disappeared, a fact which I find recorded in these words: “Infiltration of epiglottis not now discernible and no pain whatever in swallowing. Weight 196, pulse still 120, lungs *in statu quo*.” At my third and fourth observations in August, 1901 and 1902, the larynx remained equally well and the lungs had improved. He resided next in Southern California, whence Dr. Radebon, in 1907, reported that he was in good health. He now resides in Colorado again, and Dr. Gildea reports that his larynx remains well.

Summary.—The time, from the beginning of the pulmonary tuberculosis has been fourteen years. The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest of the laryngeal tuberculosis has been eight years and the patient is living at this date.

Case 4.—Mr. P., aged 45 in 1901, had diffused infiltration of two years’ duration at favorite sites in the larynx but without definite ulceration, copious expectoration with many tubercle bacilli, evident pulmonary signs and a positive tuberculin reaction. The absence of a corresponding degree of emaciation led to the particular care in *diagnosis*. He was made a test case for the *x*-ray treatment, which, although it failed in subsequent cases, seemed decidedly beneficial to him and he received, within six months, no less than forty-eight exposures after which, on special examination for the purpose, I recorded, “Larynx undoubtedly better but not well. Infiltration much less, voice improved—his friends commenting on it.” During the next eight months he received only fresh-air treatment, after which was noted, “continued reduction of the hyperplasia,” and after two years, on examination, I recorded his laryngeal tuberculosis as “arrested . . . with only residual hyperplasia remaining.” At the end of seven years he writes from Iowa, where he is working: “I have further improved; only slight hoarseness and occasional coughing remain.”

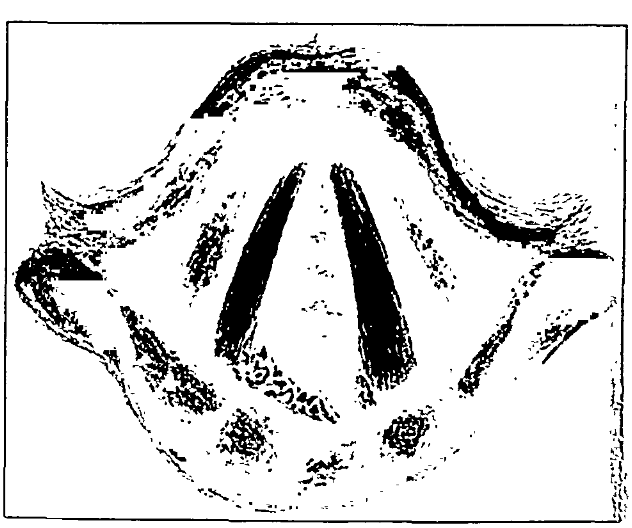

Fig. 5.—Tuberculosis of the larynx: case of Mr. R. A. L. nine years ago; now and for eight years past in a state of arrest.

Summary.—The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest has been five years and the patient is living at this date.

Case 5.—Mr. W., aged 23 in 1893, had typically tuberculous laryngeal infiltration of the left vocal process and adjoining parts of the arytenoid angle and fold of six months’ duration, dating *from vocal impairment, and had also* tuberculous cervical adenitis and evident pulmonary disease. Business requirements caused his treatment for several months to be limited to antiseptic and emollient local applications, but afterward he changed to an outside occupation in the far west. On his return five years later the larynx showed a mere residuum of the former tuberculous infiltration and up to the end of seven years he had remained well.

business. Rest is first named because it is of first importance, compliance with the other two cardinal principles being dependent on it. I have found business the major impediment to home treatment. It takes the courage of conviction to advise the sacrifice of a man's ambition, to say naught of his income, and yet it must be done or all other efforts, being deemed subservient to business stress, become but half-way measures; no hours are kept and no advice followed except as business permits. Mr. E. Z. was advised to this effect, made the sacrifice and reaped his reward in restoration to health and business capacity. Moreover, rest to the voice is so essential that business dictations must be strictly enjoined and even social conversations should be limited. In the treatment of tuberculosis of any other joint, as, for instance, the knee or hip, immobilization is quite the rule; why not so in the larynx?

It is good management at critical periods, and at some but not all other times, for laryngopulmonary patients to remain where skilful local treatment is available; hence, usually at or near their home city: and this plan becomes more feasible as the knowledge spreads that it is fresh air rather than any particular kind of fresh air which is required, and also more acceptable to patients since the inhospitable legend, "No case of tuberculosis received," is now so commonly found posted at resorts. Nevertheless, in the 20 per cent. of "arrests" which my series affords, it is evident that, following the completion, for a time, of the local treatment, a powerful curative influence was exerted by life in the open air, and, as this mode can be carried out with less friction amid sunshine and dryness, I have recommended at suitable periods, for the resistant types, a resort to favorable climates, giving preference to localities where, when needed, a continuation of local treatment is available, for by means of it the oft intensified distress of the patient can at least be greatly ameliorated. In fact, as it is impracticable in the long run for two physicians to be retained, it is proper to lay special stress in this connection on the recommendation that as soon as laryngeal tuberculosis is found to complicate a pulmonary case, the treatment not alone of the larynx, but of the disease as a whole, should be entrusted to one who is skilled in laryngeal technic, for the laryngeal involvement is the immediate life-threatening factor in the case and only in this way can the natural resistance of the patient be conserved and the general management of this especially desperate combination, laryngopulmonary tuberculosis, be placed in line with the present widespread determination, of which this congress is an exponent, to moderate the misery and mortality of the great white plague. Mr. E. Z. secured a house with grounds in a near-by suburb, where he fitted up a corner sleeping porch, equipped himself adequately for bodily warmth and, notwithstanding the severity of the winter season at Chicago, slept out of doors every night throughout the year, not excluding the wildest nights of wind and storm. Such an extreme limit of night exposure, however, is not usually commendable and may be positively detrimental. Laryngopulmonary patients, of the non-resistant type especially, can not endure inclement night exposure, as in them it tends, by aggravating the irritability of the larynx, to increase the pain in swallowing and to cut down the nourishment. At first on sleeping out, even the average cold at night and the early morning dampness generally excite coughing spells, but the resistant types soon harden to a reasonable degree of cold, beyond which point discretion is the better part of valor.

CONCLUSION

The following points have been shown:

1. Tuberculous hyperplasia in the larynx has not infrequently undergone resolution, in whole or in part.

2. Unmistakable tuberculous ulcers have occasionally healed and remained healed.

3. Favorable negative qualities have characterized in common the cases which have proven to be capable of arrest or recovery; for instance, the laryngeal hyperplasia has been less progressive, less diffused and less prone to ulceration; the underlying pulmonary infection has been less extended; there were fewer tubercle bacilli, a lower pulse rate and less emaciation.

4. These qualities persisting, the cases which are capable at least of a hopeful resistance, can be differentiated, thus justifying every effort at any sacrifice to invoke the methods likely to arrest the disease and lead to recovery, including intralaryngeal surgery when the lesions in degree and kind are suitable for it.

5. *In like manner the non-resistant type should be recognized and those patients guarded from the privation and distress which surely follow in the wake of an indiscriminate exposure to the elements and to the hardships of travel in distant climes.* In them surgery is contraindicated, excepting to prevent air hunger and suffocation or to prevent starvation by the removal of some particularly painful impediment in swallowing.

34 Washington Street.

ENLARGEMENT OF NASAL SINUSES IN YOUNG CHILDREN BY ORTHODONTIA

RESULTS IN A NUMBER OF CASES *

E. A. BOGUE, M.D.
NEW YORK

My friend, Dr. G. V. I. Brown, of Milwaukee, in his excellent paper read before this section last year, refers to having used direct and rapid pressure to expand the maxillæ for some years prior to the report on this subject made by Dr. Nelson M. Black, also of Milwaukee, in 1901. Dr. Charles E. Quimby, of New York, reported one of his cases before the Academy of Medicine in 1903, in which report he described the straightening of the nasal septum by means of an apparatus constructed and attached by himself, which had opened the suture of the upper maxillæ.[1]

Dr. W. Pfaff, court dentist at Dresden, Germany, in 1904, read a paper at the Congress in St. Louis, entitled "Stenosis of the Nasal Cavity Caused by the Contraction of the Palate and Abnormal Position of the Teeth; Treatment by Expansion of the Maxillæ."

In 1905 I read a paper at the annual meeting of the British Medical Association, entitled "The Influence on Development of Arranging Irregularly Placed Teeth into Normal Positions."

The incentive to the preparation of this 1905 paper was the success that had seemed to follow certain opera-sions or curettements, one each month, supplemented by lactic acid frictions running up to 90 per cent. in strength. It is specifically recorded of the fourth curettement that it was directed to the remains of the fissure and adjoining ulceration, and again recorded at the completion of the local treatment, that the granulomatous hyperplasia has been mostly removed and that all broken and ulcerated surfaces were healed. Of course, some deeply seated infiltration remained, but even its retrogression dates from this treatment at the conclusion of which a change of climate to the Rocky Mountain region favored the steady progress toward recovery. A year later Dr. Gildea reported: "All activity in his throat has ceased. . . . Voice fairly clear." At the end of six years Mr. D. himself reported: "The larynx has been well for four years. Voice fairly strong." Now, at the end of eight years, Dr. Gildea again reports: "Although much fibrosis in the lungs and a few tubercle bacilli are found, the larynx is absolutely well, the voice being clear and good and the arytenoids normal," and Dr. Gildea has made a sketch of the larynx, reproduced in Figure 4, which exhibits the present smooth, pearly-white and healed appearance of the same site, shown in the previous illustration to have been so characteristically tuberculous eight years ago. A comparison of the two pictures demonstrates that not merely an arrest but an actual recovery as far as concerns his tuberculosis in the larynx, has taken place.

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* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

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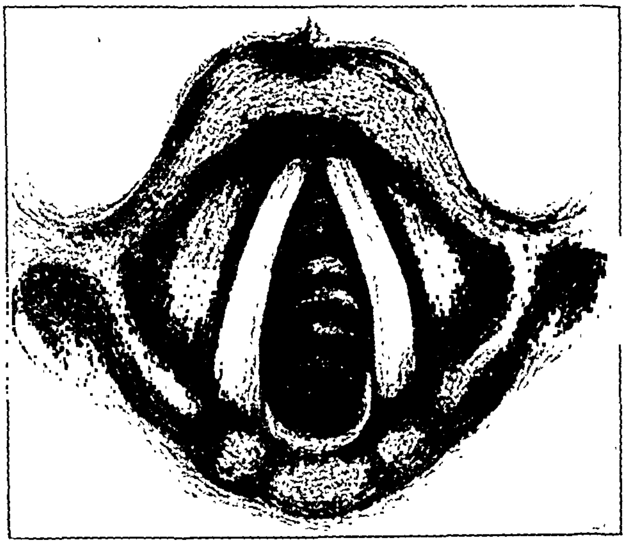

Fig. 4.—Case of the Rev. J. W. D.; now in a state of arrest and showing a smooth scar. Compare with Figure 3.

Summary.—The time from the beginning of the pulmonary tuberculosis has been eleven years. The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of arrest of the laryngeal tuberculosis, with the patient living at this date, has been five and one-half years.

Case 3.—Equally characteristic are the tuberculous lesions depicted in Figure 5, as sketched from nature in the person of Mr. R. A. L. in February, 1900. Again, the granulomatous infiltration centers about the vocal process or point of junction of the vocal cord with the arytenoid, which is a favorite site in the larynx for the initial infiltration. A similar flexion fissure is seen to be forming in the pyriform swelling of the arytenoid, but it is as yet without definite ulceration. The conspicuous infiltration of the right side of the epiglottis is shown as embracing also the pharyngo-epiglottic fold, and dotted just under the surface, more plainly visible in the image than in the illustration, were many minute individual tubercles. By reason of this condition of the epiglottis which already caused pain in swallowing, the prognosis at that time seemed especially unfavorable, although in other respects it was hopeful. The patient was 39 years old, having had slowly developing apical pulmonary tuberculosis for six years and the laryngeal complication for one year, the bacilli present being few in number. His weight was 155; pulse 120. His local treatment by curettement and lactic acid I directed especially to the granulomatous focus around the vocal process, which improved under it. The change of climate, after some months, was first to the Rocky Mountain region. On his return in January, 1901, I was surprised to observe that the laryngeal infiltration had disappeared, a fact which I find recorded in these words: "Infiltration of epiglottis not now discernible and no pain whatever in swallowing. Weight 196, pulse still 120, lungs *in statu quo*." At my third and fourth observations in August, 1901 and 1902, the larynx remained equally well and the lungs had improved. He resided next in Southern California, whence Dr. Radebon, in 1907, reported that he was in good health. He now resides in Colorado again, and Dr. Gildea reports that his larynx remains well.

Summary.—The time, from the beginning of the pulmonary tuberculosis has been fourteen years. The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest of the laryngeal tuberculosis has been eight years and the patient is living at this date.

Case 4.—Mr. P., aged 45 in 1901, had diffused infiltration of two years' duration at favorite sites in the larynx but without definite ulceration, copious expectoration with many tubercle bacilli, evident pulmonary signs and a positive tuberculin reaction. The absence of a corresponding degree of emaciation led to the particular care in diagnosis. He was made a test case for the *x*-ray treatment, which, although it failed in subsequent cases, seemed decidedly beneficial to him and he received, within six months, no less than forty-eight exposures, after which, on special examination for the purpose, I recorded, "Larynx undoubtedly better but not well. Infiltration much less, voice improved—his friends commenting on it." During the next eight months he received only fresh-air treatment, after which was noted, "continued reduction of the hyperplasia," and after two years, on examination, I recorded his laryngeal tuberculosis as "arrested . . . with only residual hyperplasia remaining." At the end of seven years he writes from Iowa, where he is working: "I have further improved, only slight hoarseness and occasional coughing remain."

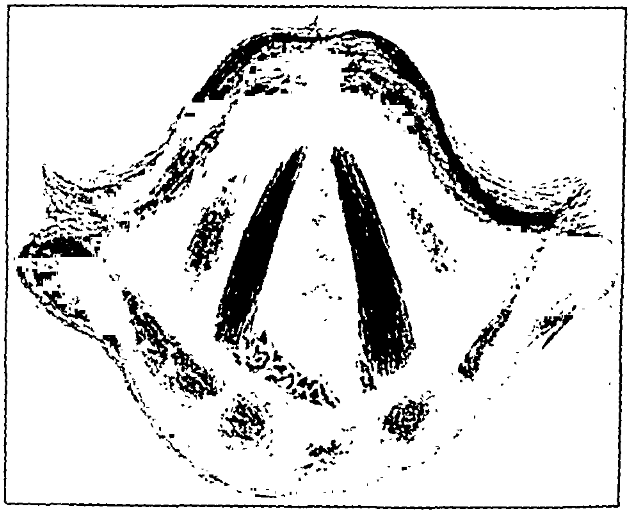

Fig. 5.—Tuberculosis of the larynx; case of Mr. R. A. L. nine years ago; now and for eight years past in a state of arrest.

Summary.—The time from the beginning of the laryngeal tuberculosis has been nine years. The duration of the arrest has been five years and the patient is living at this date.

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E. A. BOGUE, M.D.
NEW YORK

My friend, Dr. G. V. I. Brown, of Milwaukee, in his excellent paper read before this section last year, refers to having used direct and rapid pressure to expand the maxillæ for some years prior to the report on this subject made by Dr. Nelson M. Black, also of Milwaukee, in 1901. Dr. Charles E. Quimby, of New York, reported one of his cases before the Academy of Medicine in 1903, in which report he described the straightening of the nasal septum by means of an apparatus constructed and attached by himself, which had opened the suture of the upper maxillæ.[1]

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In 1905 I read a paper at the annual meeting of the British Medical Association, entitled "The Influence on Development of Arranging Irregularly Placed Teeth into Normal Positions."

The incentive to the preparation of this 1905 paper was the success that had seemed to follow certain operations on the temporary teeth of young children, which operations I began in 1899, and have been following up ever since.

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These operations consisted in gradually spreading the arches of temporary teeth, when it became evident that Nature was not doing the work herself, thus carrying outward to the proper places the crypts of the permanent teeth, which then erupted more nearly where they belonged.

As a result of these operations I noticed in every case what seemed to me an increased development in the nasal passages, a straightening of the nasal septum, and a diminished tendency to take cold. I need not mention further the marked improvement in personal appearance, beauty, sonorousness of voice and ability to enunciate clearly and distinctly, as well as to masticate properly, and to have clean teeth not predisposed to decay.

Distrusting my own powers of observation, I began in 1906 to request assistance from several rhinologists, who were better able to make these observations than I, and who were at the same time unbiased.

These physicians have examined several children before anything was done to their dental arches; and later, when I had accomplished about all the spreading that I intended, they have in several cases examined again.

I shall have the honor to present at this time a report on two or three of these cases in which the arches could not have been subjected to rapid spreading, as the work was done on the temporary teeth. At the same time I shall report on some other cases that might have been subjected to rapid spreading with advantage, but for certain reasons it was thought best to work with the ordinary expansion arch. The results certainly are gratifying, although they seem to differ from the conclusions of Dr. Faught, even as Dr. Nelson Black in his paper before this section last year found his "clinical results entirely to disprove" Dr. Faught's assertion that expansion methods could not relieve stenosis due to adenoids or septal irregularities.

I have in perhaps twenty or thirty cases succeeded in relieving nasal stenosis by gradual expansion of the arches of temporary teeth, promoting thereby nasal breathing, which function, when it is performed, tends to produce a normally widened nasal passage. I shall allude to two apparent exceptions to this during my report.

My conclusion is that in those cases in which a rapid spreading of the upper maxillary is applicable—that is, in which permanent teeth are sufficiently developed and erupted for the operator to be able to attach his apparatus firmly and to apply the necessary force promptly—that method is distinctly preferable for the correction of the class of nasal stenoses that has been under discussion, and for the reasons given by Dr. Brown last year.

When, however, the difficulty is recognized early enough to have it corrected by means of apparatus attached to the *temporary* teeth, I have found that the latter method, being to a great extent preventive, becomes distinctly preferable.

When slight pressure is brought to bear in these regions to overcome the "restrictions in the region of the palate and alveolar structures," it is in the direction of normality that the pressure is applied, hence the resumption of the proper functions of the parts is soon brought about, and with the performance of function comes development, and it comes so easily in many cases that we hardly realize that the deformity has been overcome until we see before us a normal condition.

On Nov. 10, 1906, Dr. T. Passmore Berens examined a little girl, 9 years 9 months old, and made the following note:

> L. G. protruding upper teeth; rather high arch to the palate; nose shows deflection of the cartilaginous septum, extending into the vomer and perpendicular plate of the ethmoid, the deflection occupying the whole of the middle meatus of the nose from just above the anterior end of the inferior turbinate and causing a strong contact between the septum and the middle turbinate; tonsils present, but not enlarged; but very slight adenoid tissue in the vault of the pharynx. Left side of the septum shows a concavity of the deflection to the right.

On March 14, 1908, came the following report in regard to the same patient:

> I have just examined L. G.'s nose, and find a most marked difference in her nasal septum in that it is now almost straight, and whereas before it was deflected sufficiently to be in contact with the left middle turbinate there is now perfectly free breathing space between these two parts. The concavity that was present on the right side is practically lacking.

Dr. Berens, on April 4, 1908, examined the nose of a little girl, 14 years of age, and wrote:

> Examination revealed a sigmoid deflection of the septum, the main portion of the deflection being high up on the right side, where the cartilaginous septum is in contact with the middle turbinate. The middle turbinate is not enlarged. The septum on the left side curls into the inferior meatus by a sharp edge occupies about one-third of the inferior meatus, and gradually diminishes to become lost in the vomer. There is a slight thickening of the septum on the right side near the floor.

April 21, 1909, the record of Dr. Berens' examination of this patient reads:

> The effect on the nasal septum is very marked. In fact, the deflection that was present is now almost entirely absent, although the thickening on both sides persists.
>
> The septum has almost entirely straightened, and this straightening necessarily has resulted in a complete opening of the nostril that was almost occluded by the previous deflection of the septum, so that I now consider the nasal passages to be in a normal condition.

The next is an experimental case: Miss J.J., aged 16; first examined by Dr. W. Sohier Bryant:

> April 10, 1907: Nose and mouth-breather. Marked nasal insufficiency. Developmental nasal occlusions 3.9 mm. maximum nasal compressibility at edge of nasal bones; 2.3 cm. from apex of nasal arch to apex of spine of superior maxillary. Nasal orifices measured 4.7 mm. by 11.0 mm.
>
> May 13, 1907: Nasal breathing easier.
>
> June 13, 1907: Still further improvement in nasal capacity.
>
> Oct. 21, 1907: Nasal air supply sufficient. Nasal fossæ and nares well open.
>
> Nov. 1, 1907: Breathes well through nose most of the time. Nasal orifices, 5.5 mm. x 14.0 mm. Can get more than enough air through nose. Three cm. from apex of nasal arch to spine of superior maxillary bone. The dilator nasi motionless.
>
> From the above observations, extending over six and one-half *months, we see that the capacity of the nose increased* greatly during the time the patient was under treatment for expansion of the dental arch.

The next case is that of a little boy, 7½ years old, for whom it was determined to spread the dental arches without removing the adenoids, his father recognizing no need for such procedure. Dr. Bryant's report is:

> Feb. 18, 1907: Nasal insufficiency, but a nose-breather. Narrow, slightly vaulted palate. Nasal septum showed spur on the left side. Hypertrophied tonsils and adenoids.

> May 3, 1907: Nasal breathing slightly improved. Adenoids and hypertrophied tonsils, and mucopurulent nasopharyngitis.
>
> Feb. 11, 1909: Palate seems normally developed. Septum appears straight. No spur. Nasal fossæ large. Free nasal breathing.
>
> From the appearance of the patient when I first examined him I expected that the nasal breathing would continue to deteriorate and that the nasal septum would become more irregular. Contrary to this expectation, when I saw the patient on February 11, the nasal breathing was much improved, and the nasal septum was normal. The patient still had hypertrophied tonsils and adenoids.

Dr. Charles E. Quimby writes:

> The possibility of straightening more or less the bony nasal septum through change in the relations of the superior maxillæ is no longer open for discussion so far as I am concerned. I have done it. In the case reported the deformity was purely developmental and the result has been perfect and permanent restoration of nasal respiration. Any "spreading of the upper dental arch" which changes the relations of the maxillæ must affect the nasal septum. In my case the maxillæ were separated by apparatus acting on the teeth, as shown not simply by separation of the central incisors but by opening of the suture the entire length of the hard palate. In another case under my observation change in the dental arch was followed by slight enlargement of the nasal meatus, but without change in the septum.
>
> It would seem obvious that this method of correcting nasal defects is applicable only to developmental deformities, and that the best results will be obtained before the maxillary suture is finally closed.

My two cases that seem to be exceptions were these: A little girl, whose arches I began to spread when she was 7½ years of age, improved in health and strength and ruddiness constantly for two years from the time the apparatus was first put on. Letters from her father and her mother allude to this because they both were apprehensive that the strain would be too great for the child, who had scarcely recovered from a severe and dangerous illness. They were kind enough to write me of her good condition, and that she had not suffered a day during the operation. I was correspondingly pleased. I have just learned (after three years) that her father, who is a physician, finds the inferior turbinates hypertrophied on both sides, "so much so as to nearly meet the septum. On the right side the middle turbinate is in contact with the septum," and he fears an operation may be necessary.

The other case was that of a boy, about 15 years of age, who was brought to me by Dr. Bryant to inquire why there was still a deviated septum after the boy had undergone in Boston the ordinary operations for regulating the teeth.

A careful examination with measurements very soon revealed the fact that, while the teeth had, indeed, been regulated the arches had not been spread at all; hence there could have been no enlargement of the nasal passages or straightening of the septum, and I recommended the application of direct pressure by means of a screw and the prompt separation of the maxillæ.

Epitomizing my experiences and those of all whom I have consulted, it would seem that the best results obtainable, both for nasal passages and the dental arches, are those which follow on orthopedic or orthodontic operations, commenced as early as the diagnosis can be clearly made; and these operations are accomplished by gradual pressure, stimulating normal growth; but when the child has reached 15 or 16 years of age or more the nasal septum is most promptly and easily straightened by the application of positive force, rapidly applied, and retained until the nasal troubles are remedied, after which the dental arches can have the ordinary orthodontic treatment, which they may then be found to need, involving the osteoclastic changes on the further side of the pressure, with corresponding building-up on the hither side.

Since writing the above, two letters have been received—one from Dr. John J. Cronin regarding a little patient of his, 6 years old, supposed to be a perfectly healthy baby until attention was called to the fact that his temporary teeth were a little crowded, and that the permanent teeth would have difficulty in erupting properly. An examination revealed ten or more cavities in these temporary teeth requiring fillings.

The one thing that marred the picture was that seemingly insufficient exposure would often result in attacks of croup. A spreading apparatus was applied to the temporary teeth. After about ninety days the doctor writes:

> The spreading of his dental arches is synchronous with a less irritable disposition. He has not had an attack of croup in the past three months, and, as far as one in good general practice can judge, there has been more croup than usually comes. The boy's general aspect has changed, and there can be no question that his nervous balance is greatly enhanced. The apparatus at no time has caused him the slightest inconvenience. From a thin peaked-faced child the boy has developed into a broad square-jawed individual. The nasal chambers have increased in size. I regret I could not follow out your request to measure the chambers before and after, as when I first visited the instrument shop they did not have the calipers.

The other letter to which I am permitted to refer is from Dr. W. K. Rogers, of Columbus, Ohio, to Dr. C. A. Hawley, now of Washington. Dr. Rogers writes:

> The W. children, whose adenoids and tonsils I removed a year ago, were brought in for observation to-day (April 23, 1909). It is worthy of note that in the older child whose upper alveolar arch you have been treating, and in whom, as well as the younger, there was a distinct element of nasal stenosis when I first saw them, improvement in nasal respiration has been much more marked than in the younger child, for whom you have only just instituted this procedure.

63 West Forty-eighth Street.

ABSTRACT OF DISCUSSION

Dr. Eugene Talbot, Chicago: If the essayist had intended to take up the literature on the subject, it is strange he should not mention the 14 or 15 cases I recorded in the nineties in my work on "Osseous Deformities of the Head, Face, Jaws and Teeth" and "Irregularities of the Teeth." They were the first 14 cases ever placed on record. This operation is becoming one of the greatest for the relief of humanity.

Dr. J. H. W. Rhein, New York City: I want to echo the sentiments of Dr. Talbot on this matter, that the value of presenting this treatment, not only to the laryngologist and the general practitioner, but to the world at large, is of inestimable value in the correction of one of the most unfortunate deformities that we find in childhood. I do not know whether Dr. Bogue intended to present this as something novel, for not only is the work of Dr. Talbot in this respect well-known, but these results have certainly been understood in our specialty for the past twenty-five years and have been more or less generally practiced. My record books will show a number of cases of *children* started as early as these for the accomplishment of this result. I do not believe there is anything new in the past ten years *in* the handling of the jaws before the eruption of the permanent teeth. A number of the older men are constantly decrying the handling of the jaws of children before the permanent teeth are erupted, claiming that our interference *in* this respect is frequently called for before we see what nature will do for the child, but it is the history of such cases as portrayed by Dr. Bogue that should put an end to criticism of this kind, because nothing is going to be more beneficial in the physical improvement of the individual than to eliminate insufficient breathing as early as possible in life.

Dr. George V. I. Brown, Milwaukee: Dr. Bogue's measurements show that he does get results. Fine spun theories are all very nice, but exceedingly busy men have not time to go into the details of these matters. They want things done so that they can recognize them, and done promptly. I was glad to hear Dr. Bogue report some cases that were not so successful. He has given us much food for thought in this direction. The fact that in one of his cases there appeared to be a tendency to reversion to the original condition, when it was apparently cured, is exceedingly interesting. I hope Dr. Bogue will follow this case up, determine the final results, and report later.

Dr. Arthur Zentler, New York City: I happened a short time ago to speak to the former director of the Metropolitan Opera House School for voice production. This lady told me that whenever a young pupil applying for admission had defective sounds, she sent the applicants to the rhinologist for examination. After a time she found such improvements that she inquired what caused such good results. The rhinologist replied: "I send them to the orthodontist to spread the dental arch and get a larger opening into the nasal passages." I think this statement shows as much as possible the results Dr. Bogue has spoken of.

Dr. E. A. Bogue, New York City: My only object in writing the paper was to bring testimony. As Dr. Rhein has stated, there is nothing new in it, but so many were inclined to cast discredit on the statements made by some orthodontists that I thought it worth while to get the testimony of the rhinologist who is entirely impartial. The only other feature worth mentioning was the one that my friend Dr. Brown mentioned in his paper, that this work can be done when rapid spreading is not possible.

CONSERVATIVE SURGERY FOR THE TREATMENT OF DISEASES OF THE MANDIBLE *

THOMAS L. GILMER, M.D.
CHICAGO

Exsection and resection of the mandible are followed by greater mutilation and disfigurement than follow any other oral or facial surgery. When the continuity of the lower jaw is broken by the removal of considerable sections of the bone, facial deformity is at once and permanently made, and no means of restoration by prosthesis, or otherwise, has as yet been suggested or employed, which meets the demands either cosmetically or functionally in any degree satisfactorily, either to the surgeon or to the patient. This statement may be qualified in a slight degree by excluding a few cases in which only a small section of the mandible has been removed in the anterior part of the bone, and there are present in the two fragments of the jaw a number of good sound teeth firmly set to which a bridge may be secured; and even in such cases, owing to the heavy strain to which such teeth will be subjected, it is unreasonable to expect them to withstand permanently the necessary strain of mastication without finally becoming loosened and lost.

Those who have made staying appliances for this purpose realize the many difficulties in the way. Muscular force necessary for ordinary mastication exceeds the strength of any rigidly applied fixture. That such fixtures are frequently broken by the patient, even when they are most scientifically and carefully constructed, is well known. Muscular traction on the remaining portions of an exsected mandible, in ordinary mastication, causes an outward rotation at the base of the bone, through the action of the masseter muscle on closure of the mouth, and the mylohyoid muscle turns the base of the jaw inward when the mouth is opened. If a rigid appliance is used for the support of the two remaining portions of the jaw, the metal employed for this purpose, if used in size practicable in the mouth, will, by reason of long continuous strain, crystallize and break, no matter of what metal it may be constructed. To construct such an appliance sufficiently strong to withstand mastication and not to loosen the teeth, joint must be employed on each side so that the two parts of the bone may have some free movement, thereby putting less strain on the metal connection and teeth to which it is attached.

As you will note, reference has been made to prosthesis for the most favorable cases only, that is those in which a section has been removed from the anterior portion of the jaw. If the continuity has been broken by removal of a considerable section in the posterior portion of the jaw on one side or the other, the difficulties are greatly increased. If the remaining portion of a jaw in such a case is supported and held in its normal position until cicatrization has been completed, about all has been done that can be done in such cases. This may be done by wiring the teeth of the longer fragment to the corresponding teeth above, or by soldering a flange to bands cemented to the teeth of the remaining portions of the lower jaw in such a manner that when the mouth is opened the flange will rest against the buccal surfaces of the upper jaw, preventing cicatricial contraction from displacing the remaining part of the bone. Even though one of these methods be adopted, the function of the remaining part of the jaw is extremely poor. Following resection of the entire body of the jaw or even one-half of it, there is little hope for artificial restoration which can promise great value, either for mastication or for cosmetics.

When the surgeon realizes the truth of the foregoing statements he should be slow in deciding on an operation so radical as exsection or resection. He should be sure that the life of the patient can be saved only by such an operation; and I am of the opinion that it is good practice, even in some malignant types of disease, unless the bone throughout its entire thickness is involved, to do an operation which will save at least a small part of the body of the jaw in its continuity, taking some risk of recurrence rather than maiming the patient for life. Take, for instance, the most prevalent type of malignant tumor of the mandible, the giant-cell sarcoma. Since in this type of sarcoma metastases are not early formed, a conservative operation may first be done, then the case subjected to ray energy and watched closely. If the growth recurs, it is not yet too late for the more radical operation.

My experience has been such that I feel fully justified in this procedure. I have, in several instances, removed most of the jaw, leaving for support a sufficient part of the bone in which the diagnosis of giant-cell sarcoma had unmistakably been made, and there has been no recurrence after a period of fifteen years. I have done a much larger number of operations of this kind for similar cases, which after several years there is no indication of return. Unless the disease has progressed so far that an entire section of the bone is involved, I save that part which appears uninvolved, and feel justified, though there should occasionally be recurrence.

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* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

Good surgery is thorough surgery, but it does not necessarily follow that surgery to be good must always be radical. Diagnosis in mandible cases is all-important. A case was shown at the Chicago Medical Society by Dr. Carl Beck in which an entire lower jaw had been removed by a surgeon for the cure of what was supposed to be a malignant affection. After the mandible, in its entirety, had been removed, it was discovered that the condition was simply one of necrosis. In this case had greater care been exercised in diagnosis and had Nature been assisted, the reformation of the jaw would have been so complete that there would have been but little deformity, and sufficient bone would have been rebuilt to support a prosthetic appliance.

In some instances in which diagnosis of necrosis of the mandible is correctly made, some surgeons feel that a radical operation is needed, and at once, before Nature has separated the dead from the living bone, proceed to perform that service for her with the result that an additional area of healthy bone is involved and in some instances destroyed. Had the case been closely watched, properly drained and irrigated, the dead bone would have been thrown off and in the meantime the osteogenetic influence of the periosteum would have been at work forming a new and serviceable jaw. If in cases of necrosis of the mandible the surgeon anticipates Nature's work and cuts away the dying bone, new bone is not formed to take its place, and permanent disfigurement and functional inactivity of the jaw is the unfortunate result.

The so-called epulis of the jaws, a benign tumor of connective tissue origin, may histologically simulate sarcoma. To remove large, or even small complete sections of the jaw in such cases, is to inflict unnecessary suffering on the patient. I have removed scores of such growths, taking with them only a part of the alveolar process, and they have not returned.

I am no advocate of temporizing with malignant neoplasms; but, to be sure of the diagnosis, then radically to remove all of the invaded tissue so far as we can judge, saving, if possible, a small part of the jaw in its continuity, is not temporizing.

For cosmetic reasons operations on the jaws, when they may be thoroughly and completely done from within the mouth, should be done that way, but if the disease is of a malignant nature a clear field with unobstructed light is necessary to enable one to judge of the extent to carry the operation, then an external incision should be made. Such incisions may usually be made in a manner to cause the minimum of disfigurement.

31 Washington Street.

ABSTRACT OF DISCUSSION

Dr. George V. I. Brown, Milwaukee: The thoroughly practical views that Dr. Gilmer has presented of the difficulties encountered in endeavoring to overcome the mutilation and disfigurement that follows resection of the mandible, based as they are on his long experience and successful results in oral surgical practice, commend themselves to our best consideration and adoption. Of course, we all know that the only hope at present for greatly benefiting growths of the more malignant types is early diagnosis and complete radical early operation at a time this may be done without total destruction of usefulness of the parts. It is no kindness to a man to resect his lower jaw, or a half or two-thirds of it for the sake of giving him the bare possibility of one or even two years additional life. I do not consider life worth living under conditions such as those in which I have seen patients endeavoring to exist after operations of that character had been performed. When the question of resection of the jaw for cancer arises in my practice and there is on the one hand perhaps the temptation to do a big operation with doubtful prognosis, the thought comes to me, "Would I desire to have that done to myself? Would I wish to live under such circumstances?" and most of the time I think that I would not.

One of my cancer patients was saved, I believe, by Dr. A. J. Ochsner, of Chicago. The growth was situated in the region of the maxillary sinus of a patient for whom I had previously done a radical operation for empyema of that sinus. At the time I was suspicious of a tiny spot not quite so large as one's little finger nail. In accordance with my custom, I had sections made and under the microscope it proved to be cancer. For several months the patient got on well. Then he had a recurrence. I knew if anything was to be done with the knife it must be a removal of the entire upper jaw. Instead of this I took the patient to Dr. Ochsner and he burned the growth out. The operation was done without an external incision. Twenty or thirty soldering irons were heated, the patient was anesthetized, and these irons thrust, one after the other, into the opening, which already existed in the sinus. This was repeated until the tissue in every direction was burned to the utmost limit that one would dare to force the iron. It was necessary to burn this patient on two different occasions and sequestra of bone came out for months afterward, but from last accounts the man was still living happily, and I feel sure that he would not have been living at this time had other methods been pursued.

I am convinced that there is no operation that can be done with the knife in the way of resecting the jaw, upper or lower, that will come so near taking out all the tissue that is malignant or has a tendency to malignancy, or will so nearly overcome the tendency to recurrence of the neoplasm, as will burning with soldering irons. This operation is disagreeable for those who operate and very much so for the patient afterward, but its great advantage lies in the fact that one could not so safely do so extensive an operation with the knife; hemorrhage in other kinds of operation would, in all probability, be very much more serious, and by this method of treatment tissue is destroyed in advance, so that it continues to slough out for a considerable period of time. Thus we have micro-organisms concerned in tissue destruction, warring against and destroying the tendency to proliferation of cancer as of other cells, and this seems to exert a beneficial influence.

With the great advancement that is being made in the study of both carcinoma and sarcoma, we all hope for better methods of treatment in the near future. In the meantime, in my opinion, there can be no question of the value of the suggestion that Dr. Gilmer has given us to-day. The same principles apply with even greater force to the treatment of necrotic conditions of the mandible, because with these the surgeon, by the skillful use of suitable instruments, proper drainage, and reasonable time to allow Nature's curative and reconstructive processes to assist, should in most instances be able to control the operative conditions sufficiently to avoid hideous external scars, and seriously deformed, more or less useless jaws that so frequently result from unnecessarily rapid improperly performed operations.

Dr. T. L. Gilmer, Chicago: I spoke of certain tumors of the mandible as so-called epulis. This tumor is not malignant. There is another tumor of the jaw, sarcoma, known by the same name which is malignant. Epulis is a compound Greek word meaning on the gum; therefore is not a suitable name for either growth. Neither of these growths spring from the gums, but are of connective tissue origin and usually originate in the bone or periosteum. Epulis to the pathologist means a malignant growth. It is a misleading name and should be abandoned. Microscopically some of these non-malignant growths show sarcomatous cell formation.

The stomatologist should ever be on the alert to detect disease of the mouth early. Since he is seeing the mouths of his patients frequently he may discover abnormal conditions before they have gone too far to remedy, without serious deformity or loss of life.

Desamidation.—This term, which is not to be found in the average dictionary, signifies the capacity to reduce amid nitrogen.

ANESTHETICS FOR DENTAL SURGERY [*]

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Dental surgery embraces so many different operations, varying so widely in the time required for their performance and in the amount of shock to the nervous system, that it necessarily calls for various agents of different degrees of potency to meet its requirements.

For prolonged narcosis we have chloroform, ether, ethyl bromid and ethyl chlorid. The record of deaths in the dental chair from chloroform is so appalling that one would think no intelligent dental surgeon would permit this agent to be used in his office, even though a physician should recommend it and assume the responsibility by his presence and performance as anesthetist.

The April number of the *Dental Cosmos* records a case of death from chloroform narcosis in the dental chair, and I have almost quoted the editor's comment above. The May number of the *Dental Brief* reports two deaths from anesthetics in the dental chair, one from chloroform; in the other case, we are left to guess what agent was used, as the reporter seems to think this a thing of minor importance. A death from chloroform in Oklahoma is recorded in the *Dental Summary* for May; thus it appears we are slow to profit by experience.

When serious surgery is to be done, and profound narcosis is required, the patient should be taken to a hospital where all proper precautions may be taken to meet the risk, and where the recumbent position may be maintained from start to finish.

In dental surgery too much recklessness has been displayed in hurrying patients through serious operations under profound anesthesia in the dental chair, and frequently without any preliminary examination of the patient to see what anesthetic should be chosen for the occasion.

If the dental surgeon feels his own incompetency to make this necessary examination of his patient, if he is not himself a physician, he should call in a medical man for the occasion; for under no circumstances should he administer profound narcotics alone and unassisted, or without the necessary preliminary examinations. I am led to indulge in this surgical platitude by seeing in a recent number of a dental journal a paper in which the author urges a more frequent and general use of anesthetics for such operations as extirpating pulps, lancing abscesses, and even excavating sensitive cavities. I can not condemn such recklessness in sufficiently strong language.

The oral surgeon will do well to content himself with such old and well-tried friends as nitrous oxid and sulphuric ether, on whose ancient and honorable record it will be good to fall back, if any trouble should arise; and of trouble he should always have a watchful fear.

In making these remarks, I hope no one will get the idea that I would discourage research in the field of anesthesia—that I would frown on all effort to discover new and better agents; by no means. I wish my remarks along this line to apply to the average oral surgeon in the pursuit of practice, not to research work.

For prolonged anesthesia, such as is required in the surgery of the face and jaws, nitrous oxid has been found a valuable agent to produce narcosis, being succeeded by sulphuric ether to maintain this condition. This has been called Clover's method, because Mr. Clover of England was probably the first to devise a suitable apparatus for these two agents.

Clover's apparatus has been subsequently altered; but it is questionable if these alterations have resulted in very decided improvement. The advantages of this method have been set forth by Dr. C. C. Norris,[1] of Philadelphia, in a report of 150 cases, compared with 150 cases of plain etherization.

He first mentions the safety of nitrous oxid, which no one will dispute; then its successful use preliminary to ether at Guy's Hospital, London, for twelve years. Favorable report on the method in a considerable number of cases by Carter, Prevost and Kelly.[2]

Dr. Norris, in enumerating the many advantages of this method over ether alone, lays particular stress on the speed with which narcosis is induced by nitrous oxid and the small amount of ether required to maintain it.

Narcosis being speedily and promptly induced by nitrous oxid, much time is saved, and the period of excitement, usually so hard to pass with ether alone, is avoided. There is an advantage of far greater magnitude than that of the mere saving of time and ether: it is in the lessening of the ether toxemia, for much less ether is required.

In a recent number of the *Therapeutic Gazette* we find an article on general anesthetics in which Dr. F. K. Bean[3] is quoted as extolling this nitrous oxid and ether method.

A. Otte, discussing the incidence of thrombosis and other complications after ether, insists on the importance of preliminary thorough disinfection of the mouth by inhalations of thymol and salicylic acid with alcohol and hot water; this is done on the preceding night and just before operation. Morphin, one-third of a grain, is given before the inhalation. The ether is then administered in small and measured doses; the patient is covered up in blankets and the antiseptic inhalations are resumed as soon as the operation is completed. This method, it is stated, materially lessens the after-dangers of etherization.

O. B. Wright has studied the postanesthetic pulmonary complications in the Johns Hopkins Hospital. He says that pneumonia induced by etherization is of a different type from the usual form, with lower and less regular temperature and without the appearance of a true "crisis." The pulmonary signs develop later, and there is less cough and sputum. The question of the pathogenesis of ether pneumonia is fully discussed under the heads of (1) irritant action of the anesthetic (and it is pointed out that ether is more commonly the exciting cause); (2) aspiration of mucus, blood vomitus and hypersecretion from the larger bronchi (it was stated that preanesthetic injections of atropin were found valueless as a means of checking the secretion); (3) emboli which Wright believes may prove to be a factor, but only one of many; (4) direct toxic effects of the anesthetic on the heart and blood vessels (these, it is believed, are more commonly met after chloroform inhalation); (5) the presence of pneumococci and other morbid bacilli in the air-passages; (6) extension of infection from the abdomen traveling through the diaphragmatic space; (7) the cooling of the surface of the body as a result of the anesthetic; (8) limitation of thoracic movement, leading to lessening of pulmonary ventilation due to bandaging, or to the voluntary efforts of the patient with the aim of avoiding pain caused by the thoracic excursion; (9) lessened resistance of the tissues arising from their depressed vitality. In discussing the prophylaxis, stress is laid on the strict limitation of the quantity of anesthetic inhaled and on attention to the posture of the patient.

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[*] Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

[1] Univ. Penn. Med. Bull., July, 1902.

[2] Cosmos, xliv.

[3] Lancet, London, December, 1908.

The article cited above quotes A. E. Halstead as attributing postoperative paralysis to excessive dosage of ether. He uses morphin as a preliminary which diminishes the quantity of the anesthetic subsequently required.

For operations of short duration in oral surgery, such as extracting teeth, opening abscesses and removing pulps, nitrous oxid is the best and the safest anesthetic.

The S. S. White inhaler, devised for the administration of nitrous oxid alone or in combination with atmospheric air, is the inhaler I have used most; and I prefer it to any I have seen.

This instrument is so contrived that the operator may first accustom his patient to take deep inhalations of air; then, by a light pressure of the index-finger on a spring valve, a small amount of gas may be admitted, the amount of gas being gradually increased until the air is entirely cut off, and the patient is breathing gas alone. When duskiness of the skin under the eyes and about the lips begins to appear, or signs of distressed breathing, the pressure of the finger on this valve may be relaxed, the air is again admitted, and after relief is apparent the gas may be applied in full volume.

I used this admirable inhaler many times before I learned to control it. Although it is simple and easy to manipulate, I simply did not understand the best method of administering nitrous oxid—a method that must have been well known to the designer of this inhaler in order to produce so perfect an instrument.

This inhaler is provided with an inflatable rim that fits close over the nose and mouth.

It is also provided with a spring valve that gives exit to the expired air, and it may be connected by large tubing with a gas bag which is connected by tubing to a cylinder of condensed gas, or it may be connected with a gasometer suspended over water, which latter is to be filled either by direct decomposition of ammonium nitrate or from a bottle of condensed gas. A transparent face-piece is now made which enables the anesthetist to note the color changes in the lips, a very great improvement.

There is a distinct advantage in being able to have your patient breathe pure air for some time through the inhaler before admitting gas. It quiets the fears of nervous patients and affords opportunity to instruct in deep breathing.

No anesthetic should, in the beginning, be pressed on the patient to the entire exclusion of air.

This is eminently true of nitrous oxid, which, if turned on in full force, gives the patient a smothering sensation that is alarming to many timid people, is a real danger-signal, and, if persisted in, quickly brings on a duskiness of the skin that deepens into cyanosis with jactitation, all of which symptoms may and should be avoided. The prop being in place, the patient started breathing calmly and deeply, the operator by a slight pressure of the index-finger admits a small amount of gas, at first so little that the patient does not know when he begins to breathe the anesthetic; more and more is admitted until the spring is well down and the patient is breathing gas alone.

The operator must watch the skin under the eyes and about the mouth for the slightest sign of duskiness and when these are noted instantly lift the finger from the valve admitting a full inspiration of pure air to chase away the cloud of cyanosis, when the gas may again be admitted and soon be pressed to full volume.

With some patients these tactics must be repeated once or twice before the anesthetic may be pressed to deep narcosis.

This is the whole secret of safety in nitrous oxid anesthesia, and if this method is watchfully adhered to many patients whose physical condition would contraindicate gas may be successfully anesthetized.

In some patients of full habit, it is best not to wait for signs of cyanosis, but after a few deep inspirations of pure gas admit air and alternate until the gas may be pressed to full narcosis.

When the anesthetic is given in this way few patients will show signs of asphyxiation, and nitrous oxid is the safest of anesthetics. Combining nitrous oxid and air in this way, we get a more prolonged narcosis. There is no cyanosis, no jactitation, the patient is quiet, still, has no illusions, does not struggle, and thus the operator has a better opportunity; besides, the recovery is better. To my mind the advantages over nitrous oxid and oxygen are many.

Besides the increased safety, the apparatus is more simple, requiring no assistant to the anesthetist. The expense is far less and after-effects better.

I quote from a recent book on anesthesia[4] as follows:

> Paul Bert's experiments with nitrous oxid and air were failures, because he attempted to employ only fixed proportions.
>
> Mr. Tom Bird claims to have used air with gas as early as between 1870 and 1880.
>
> Mr. Rowell has spoken well of the plan of intermittent admissions of air.

Mr. Carter Braine devised a face-piece intended to supply a ready means of admitting a varying proportion of air. Speaking of this intermittent air supply method, Buxton concludes as follows:

> The time occupied in producing anesthesia may be a minute and a half, or two; or even three minutes, and the period of anesthesia is usually longer than when only nitrous oxid is employed.
>
> I have obtained a workable seventy seconds' [anesthesia] by this method.

No mention of any unpleasant after-effects following this method are made by Mr. Braine, but in regard to nitrous oxid and oxygen I quote the following:

> After-effects, such as languor, nausea, vomiting, headache, slight vertigo following the use of nitrous oxid diluted with oxygen are somewhat more frequent than when nitrous oxid is used alone.
>
> This is probably due in part to or entirely to the more prolonged period of induction of anesthesia. The patients are longer in recovering their wits and occasionally remain in a dazed state for some minutes. The after-effects following the use of nitrous oxid and air are practically those already described in speaking of nitrous oxid . . . conspicuous by their absence.

527½ Church Street.

Medical Missionary Work in India.—A dispensary was opened a few months ago by Dr. Lester H. Beals, a missionary of the American Board, in Wai, a city about a hundred miles south of Bombay. Ninety patients came the first day, and since then the daily attendance often exceeds 200. A considerable number of the patients need operations, especially for removal of cataracts, and more careful and prolonged treatment than is possible at a dispensary. Dr. Beals writes: "The medical destitution far exceeds anything that I supposed this part of India could furnish."

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[4] Buxton: Anesthetics, p. 102.

THIRTEEN THOUSAND ADMINISTRATIONS OF NITROUS OXID WITH OXYGEN AS AN ANESTHETIC *

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Thirteen thousand successful administrations of nitrous oxid and oxygen by one anesthetist covering a period of nine years for practically every kind of an operation to its completion, under varying degrees of hazard, and varying in time from a few minutes to three hours, furnishes sufficient data, it seems to me, to establish to some degree, at least, the efficiency of nitrous oxid with oxygen as an anesthetic.

I realize that this declaration makes it necessary for me to provide the proof, which I am prepared to do, although, for the lack of time, it will be out of the question to review very many of the interesting cases. It will be competent, however, to select for illustration a few cases, which seem to me to substantiate my statement. If any one cares for further proof than will be set forth in this paper, the thousands of cases of which I have a record are at his disposal.

Nitrous oxid with oxygen as an anesthetic has not a very substantial record at present, owing to the limited number of cases to report on, and this makes it apparent that it is not occupying the place it should among the recognized efficient general anesthetic agents. This being the case, I desire to take up briefly some of the more important features connected with this particular anesthetic before reporting the cases I have selected.

I shall pass over the chemical and physical properties of the gases, as most, no doubt, are familiar with them.

In taking up this line of work I first employed nitrous oxid with varying percentages of air, but I found, as others have, that the character of nitrous oxid anesthesia was entirely changed by the substitution of pure oxygen for the air. As a result of this change, nitrous oxid with oxygen has been given a prominent place in surgery to-day.

The profession in general has been extremely slow in taking up nitrous oxid with oxygen as an anesthetic in general surgery, owing mainly, I think, to three factors: (1) an imperfect apparatus; (2) lack of skill in its administration; (3) the expense. Happily there have been a few of us who have devoted not only a great deal of time, but also spent considerable money in developing this form of anesthesia because we recognized its well-known pleasantness and safety.

The first reports that we have of cases in which oxygen was used with nitrous oxid in producing anesthesia were made by Dr. E. Andrews of Chicago, in 1868, but he did not use it to any extent nor did he get any one interested in it at that time. It was ten years later that Paul Burt of France went into this subject thoroughly. He carried out some elaborate and expensive experiments, but he was laboring under a wrong theory, so his methods were never adopted. Dr. Burt proved, however, that nitrous oxid was a true anesthetic, and that asphyxiation was only concomitant, and not the cause that produced anesthesia. Dr. Frederick W. Hewitt of London has done more to bring this anesthetic before the profession than any one man. His book, "Anesthetics and Their Administration," is the best on the subject that has ever been published. He has had very extensive experience with all anesthetics, as he has devoted his energies exclusively to anesthetics for a long time. He, however, has not had the experience with this particular anesthetic that some men in America have. He has used it only in slight operations and of short duration. The longest time that he speaks of administering it continuously was fifty-two minutes for a minor case for the dressing of a wound and adjusting splints. The list of operations in which he employed nitrous oxid and oxygen are given by him as follows: "Syme's amputation, lithotrity, removal of breast, excision of varicose veins, varicocele, removal of ossicles of internal ear, resection of patella, removal of necrosed bone from a tuberculous hip, several intra-uterine operations and for a large number of minor operations." There are many men in this country who are using nitrous oxid and oxygen for practically every operation that is being done by the surgeons of to-day. The indication for nitrous oxid and oxygen as the anesthetic is not governed by the nature of the operation, but by the physical condition of the patient. When the operative risk is great, nitrous oxid with oxygen is indicated, and the mortality rate is greatly reduced.

Since the discovery of oxygen by Priestley in 1774 it has held a more or less prominent place in medicine and surgery. The effect of the inhalation of oxygen on the system is acknowledged by all to be beneficial. Brambridge says "that oxygen influences the quality of the blood, that this improvement is in the direction of an increase in the red corpuscles, that the white corpuscles are not influenced by it, and that clinically it effects a marked improvement in the patient." Oxygen is a slight respiratory and cardiac stimulant and is a specific in asphyxia. It has but little effect on blood pressure.

EFFECT OF NITROUS OXID AND OXYGEN ON THE ORGANISM

Let us now consider for a few minutes the effect of nitrous oxid and oxygen on the organism. The gas on entering the lungs is distributed throughout the alveoli and is taken up by the blood and passes to the lymph. As the nitrous oxid comes into contact with the delicate nerve cells an action is brought about that causes a temporary cessation of their functional integrity. The most highly organized centers are first and chiefly affected; but gradually all succumb until the respiratory and cardiac centers are paralyzed. The rate of absorption of nitrous oxid and oxygen will depend on numerous conditions; i. e., temperature of the gas, temperature of the blood, rate and depth of respiration, the rate of capillary flow through the walls of the alveoli. It is well known that the absorption of anesthetic vapors takes place much more readily if the temperature of the vapor when inhaled is about that of the blood. I have found that when nitrous oxid with oxygen is administered warm the patient passes into the anesthetic state more quickly, more quietly and with less disturbing effect to the respiration than when the gas is given at lower temperatures. With warm gas the patient, as a rule, gradually and quietly passes into a peaceful sleep without the least resistance. The narcosis obtained is deeper, relaxation is more complete, cyanosis is almost entirely absent, intercurrent asphyxia is less likely to be brought about by reflex stimulation from the operative manipulation, which might interfere with respiration. There will be no postoperative bronchitis or pneumonia following inhalation of warm gases. Another feature is the smaller amount of nitrous oxid required. Nitrous oxid and oxygen

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* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

given at an ordinary temperature will require on an average 250 gallons of nitrous oxid and 40 gallons of oxygen for an hour's anesthesia. When the nitrous oxid with oxygen is administered warm or at about the temperature of the blood, 150 gallons of nitrous oxid and about 40 gallons of oxygen will suffice for an anesthesia lasting an hour. A smaller amount of nitrous oxid will be required for the second hour of anesthesia, but a larger amount of oxygen will be necessary.

The elimination of nitrous oxid and oxygen takes place principally through the pulmonary blood stream and respiratory tract. On the withdrawal of the anesthetic the alveolar tension falls below the blood tension, and the elimination commences. The rapidity of elimination will depend on the freedom of the air tract, the depth and efficiency of respiration, for on this good circulation depends. If a good respiration and circulation are present on the withdrawal of nitrous oxid and oxygen, recovery takes place in a very few minutes. The patient will show symptoms of recovery within sixty seconds after a profound anesthesia which may have lasted two hours, and will be conscious within three minutes. At times when poor circulation and respiration are present, recovery will be much slower, and if there has been much surgical shock recovery will be still slower. Recovery may be hastened greatly by administering pure oxygen every few inhalations.

I have used nitrous oxid with oxygen many times as the anesthetic throughout the following operations: laparotomies, consisting of hysterectomy, salpingectomy, oöphorectomy, appendicectomy, cholecystectomy, choledochotomy, gastrectomy, gastroduodenostomy, uretrosigmoidostomy. Other operations, such as abdominal Cesarean section, prostatectomy, removal of large tumors and inflammatory adhesions; radical operations for the cure of hernia, varicocele, hydrocele and orchidectomy; amputations of breasts, amputations of extremities, and a large number of thoracentesis. If this anesthetic is administered skilfully it is about ideal for the operation of thoracentesis, for a small amount of nitrous oxid will produce anesthesia and a large percentage of oxygen can be given to the starving lung. In brain surgery nitrous oxid has been especially advised against, owing largely to the asphyxiation that is concomitant with the administration of nitrous oxid and air. For while the addition of air will lessen to some extent the asphyxiation of nitrous oxid, it will not suffice to eliminate it entirely; if air is added to overcome all the asphyxiation the nitrous oxid loses its effect as an anesthetic. Nitrous oxid with varying proportions of oxygen, however, if skilfully given, is a different proposition. My experience in this line of work has been good, for I have not had a single case in which difficulties arose.

EFFECT OF NITROUS OXID ON THE BRAIN

It is interesting and very instructive to observe the effect of nitrous oxid on the brain and also the effect of the oxygen. I have noticed in the cases which I shall report later that when the patient inhales pure nitrous oxid the brain begins to lose its natural pinkish color in about fifteen seconds, and at times much sooner than this. If the inhalation is continued without air or oxygen the brain continues to become darker. If this is continued to the third stage of anesthesia, the brain will have the appearance of stagnant blood and will be greatly dilated. The dilatation is concomitant with the discoloration, and if there is much cyanosis present the brain will be greatly discolored and will protrude through the opening in the skull. What is the cause of this discoloration and dilatation? Is it the effect of the nitrous oxid, or is it simply the asphyxial element caused by anoxemia? The cause of this change was clearly shown in a case I have reported elsewhere,[1] but as it will illustrate my point here I will again refer to it.

Case 1.—*Patient.*—A lad, aged 10, while playing on a fence in some manner fell off, landing on his head. The bruise was near the left side, causing an epidural hemorrhage. The pupil of the right eye was extensively dilated and the muscles of the same eye were paralyzd. There was not even a scalp wound. He was in a comatose condition when picked up, and continued in this condition for about twelve hours. An operation was decided on, but it was undertaken with grave fears on account of an exceedingly weak thready pulse and rapid jerky respiration.

Anesthesia.—I started the administration with about 8 parts of oxygen and 92 parts nitrous oxid, increasing the oxygen gradually until about 12 parts of oxygen and 88 parts of nitrous oxid were being given at the end of sixty seconds. The patient passed into complete surgical anesthesia within this time. Respiration became more rhythmical, the pulse became less rapid and the tension much improved; in fact, the patient was in far better condition than before the anesthetic was started. An opening the size of a half dollar was made in the skull and a large quantity of clotted blood was removed. As everything was going nicely I carried out the following experiment: On decreasing the oxygen to about 3 parts with 97 parts nitrous oxid in about ten seconds a change in color was noticed in the brain. At almost the same instant a swelling up of the brain occurred. As the anesthetic was continued the brain gradually became very dark and dilated to the extent that the entire cranial cavity was soon filled, and the brain commenced to protrude through the opening. The oxygen was increased at this point to about one-half of the mixture, and after only four inhalations it was noticed that the brain was receding and the natural color was restored rapidly. The brain had regained its normal color and position within fifteen seconds. This discoloration and dilatation were concomitant and could be brought about at will by increasing or decreasing the oxygen.

Case 2.—*Patient.*—A man, weighing about 240 pounds, who was operated on for brain abscess. This patient was in bad condition; temperature 107; he also had degenerated vessels and heart. This anesthetic had been given him twice before; once for a frontal sinus operation and once for a mastoid operation, all within six weeks. He had taken the anesthetic nicely on the two former occasions, so it was given for this more extensive operation without much apprehension. I was able to produce a profound anesthesia with about 90 parts nitrous oxid to 10 parts oxygen from the start, gradually increasing the oxygen to 15 parts within the first two minutes. The patient passed into profound anesthesia within two minutes. When the skull was opened I had good anesthesia without any cyanosis or other asphyxial symptoms and the brain was of good color and not dilated. I kept an even anesthesia throughout and had no change of color or dilatation of the brain at any time.

All of my brain operations show the same phenomenon. If the anesthesia is accompanied by cyanosis, the brain will be not only dark in color, but dilated as well. Consequently I affirm that the dilatation and congestion were not due, *per se*, to the anesthetic action of nitrous oxid, but constitute an entirely asphyxial manifestation. The asphyxial factor may enter into any anesthesia, and if it does the afore-mentioned phenomenon will be present, whether the anesthetic agent be chloroform, ether, or nitrous oxid. It is more apt to accompany nitrous oxid than any of the other anesthetic agents, from the fact that nitrous oxid has to be administered almost in its pure state. The asphyxiation that we have with nitrous oxid anesthesia is not dangerous, however, as compared with that produced by ether or chloroform. In brain surgery nitrous oxid alone or administered with air is not a good anesthetic; but nitrous oxid with varying proportions of oxygen is without question a good anesthetic in brain surgery.

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[1] Read at the thirty-ninth annual meeting of the Pennsylvania State Dental Society, Pittsburg, July 9, 1907.

CASES SHOWING SPECIAL POINTS

I will mention a few cases in order to show some points of special interest, such as length of narcosis, extreme ages of patients, physical condition, primary shock and fatality.

Under length of narcosis, I have the following cases:

Case 3.—*Patient.*—Mrs. S., aged 32; very nervous; somewhat emaciated; valvular insufficiency; compensation fairly good.

Operation.—Hysterectomy, appendicectomy. Hemorrhage profuse and troublesome. The uterus contained a fibroid tumor weighing 22 pounds.

Anesthesia.—Induced in two minutes; some reflex effect on respiration when incision was made, but no other movement of patient. Profound anesthesia was easily maintained with about 88 parts nitrous oxid and 12 parts oxygen. This amount varied somewhat but was about the average. Anesthesia was maintained without one breath of air or other anesthetic. Pulse at the beginning was 98, at the close just before the anesthetic was removed 112. General condition good under the circumstances.

Postoperative Condition and History.—Consciousness was regained within three minutes. Patient vomited during recovery only; no more sickness. Length of operation, three hours and four minutes.

Case 4.—*Patient.*—Mrs. G., aged 45; nervous temperament; general condition fairly good, but the patient had suffered for years from pelvic trouble and chronic gastritis accompanied by severe vomiting. Nitrous oxid with oxygen indicated on account of the gastric disturbance.

Operation.—Patient was found to have a large intraligamentary cyst, complicated by dense and extensive adhesions, with an involvement of both tubes. A double salpingectomy was performed, together with removal of the cyst and adhesions. Bleeding from the denuded surfaces was very troublesome, making the operation a long one. The patient was given morphin 1/6 gr. and atropin 1/150 gr. one-half hour before the operation. The morphin and atropin was given on account of certain conditions that indicated that the patient was not susceptible to anesthetics and complete relaxation was imperative, which we wanted to obtain without the aid of ether.

Anesthesia.—The patient was anesthetized in about three minutes. There was a certain amount of cyanosis present and some rigidity during the first fifteen minutes. After this time a good color and complete relaxation was obtained throughout the operation, which lasted two hours and forty-eight minutes. The pulse remained good, being at the close only a little faster than at the beginning, and was full and strong.

Postoperative Condition.—Patient regained consciousness within five minutes. Nausea and other postanesthetic complications were entirely absent.

I have had many cases in which it has been necessary for me to continue the administration of nitrous oxid and oxygen for two or three hours. As to the length of time that nitrous oxid and oxygen could be continued with safety, I believe that this anesthetic can be given longer and with less danger than any of the general anesthetics, excepting none.

In looking over the cases to ascertain the age, I find one which I think will be of interest. It is that of the youngest person to whom I ever administered nitrous oxid and oxygen, and is as follows:

Case 5.—*Patient.*—A baby boy, whose birth was induced at the eighth month, being at the time of operation three months old. Operation, circumcision and amputation of toe.

Anesthesia.—No inhaler was used for this case, but, instead, I forced the nitrous oxid and oxygen through the tube, holding it in front of the patients mouth. Narcosis was induced in about forty seconds with a mixture of about 5 parts oxygen and 95 parts nitrous oxid. There was a certain amount of adulteration caused by the nonexclusion of the air, but, notwithstanding this, it was soon necessary to increase the percentage of oxygen in order to prevent muscular jactitation and clonic spasms. Perfect anesthesia was maintained to the completion of the operation, about thirty minutes. On the removal of this attenuated vapor recovery took place within forty seconds. The child seemed as bright as ever, and the sympathetic mother, in her anxiety, put the child to her breast at once and it nursed without any ill effects.

I have administered nitrous oxid and oxygen to over 5,000 children, principally for tonsillectomy, tonsillotomy, adenectomy, circumcision and dental extractions. For these oral operations the nasal inhaler is employed, and profound anesthesia is maintained to the completion of the operation. Available anesthetic is at the operator's command until the operation is completed, be that in two minutes or two hours.

The aged, as a rule, are good subjects for nitrous oxid and oxygen, and take it nicely. As with children, it is necessary to keep a close watch of all symptoms, for the effect of the anesthetic is very rapid in such cases. I have administered it to a great many aged people, some presenting practically no abnormality except that which would be expected in the aged, but others in which a general active and chronic degeneration was extensively manifested. In such cases, as a rule, I have been able to obtain satisfactory anesthesia and have no cause for worry. There are exceptions to this, however, and I have had my resources taxed to their utmost.

In my experience gained from 13,000 nitrous oxid and oxygen anesthesias, I have learned that it is not always best to continue with nitrous oxid and oxygen under all circumstances, for it may be next to impossible to retain the desired depth of narcosis in certain cases. In some cases it may be better to resort to a more stimulating or tolerable anesthetic either in sequence or combination.

I have had a few cases in which respiratory, cardiac and composite (Hewitt) shock was manifested during the operation, and probably more than would be met with under 13,000 average ether anesthesias, owing to the fact that nitrous oxid with oxygen was resorted to in many of these cases for the reason that there was some abnormal condition present and the operative risk was great. Under these circumstances we would expect to encounter shock quite frequently.

I have had but one fatality on the operating table, and this was a primary circulatory failure, in no way due primarily to the *anesthetic*. I have barely missed several, however, by the patient dying a few hours before the time set for the operation.

Case 6.—This was one in which composite shock was met, owing to the sudden release of tension of the *abdominal cavity*.

Patient.—Mr. I., aged 86, obese, plethoric; senile myocarditis, and very rapid pulse (130), hard to discern in the *external carotid*, facial or radial arteries.

Operation.—This was performed for stone of the bladder. The *abdomen* was greatly distended from the retention of urine for four days. Suprapubic lithotomy was performed.

Anesthesia.—This was induced slowly; for any effort to hasten obstructed the breathing. After about five minutes' satisfactory anesthesia had been induced and the incision was made and the bladder exposed. Respiration was somewhat labored but patient was in good condition and had a good color, indicating good oxygenation. The pulse was not easily obtained by palpation but was quite distinct by auscultation.

It was the intention to remove the contents of the bladder gradually, but the distention was so great that when the incision was made the bladder burst and the contents flew to the ceiling. Respiration ceased at once; no pulse or heart sound could be detected, eyes fixed and staring, pupils enormously dilated and all reflex abolished. Artificial respiration and lung inflation with pure oxygen were resorted to at once. Heart sounds commenced within thirty seconds with almost immediate inspiration, which was repeated after a few seconds and normal respiration and circulation reestablished. Pure oxygen was continued, alternating with air until the corneal reflex was established, after which the nitrous oxid with oxygen was used and the anesthesia continued without mishap to the completion of the operation. The patient recovered consciousness within eight minutes and did not seem greatly depressed.

The following case is reported for the reason that it is the only death that I have ever had. Nitrous oxid with oxygen was the anesthetic used. I will give a detailed report of this case in order to show that the anesthetic was not the primary cause.

CASE 7.—*Patient.*—Mrs. M., aged 60, had been vomiting for over a month and was in an exhausted condition from starvation. The cause of her trouble was very obscure and symptoms were lacking. Gallstones were finally diagnosed. Owing to her extremely exhausted condition an operation was considered hazardous but imperative. The persons interested were aware of the likelihood of a fatal termination so were prepared in a way for what followed. I found a very weak, thready, irregular pulse running at the rate of 150, and hardly perceptible in the radial artery.

Anesthesia.—The anesthetic was started with 95 parts nitrous oxid and 5 parts oxygen. The oxygen was increased rapidly up to 10 parts. The patient was found to be fully anesthetized after she had taken about eight inhalations. It was necessary to increase the oxygen to 20 parts or more to prevent too deep anesthesia. There was a peculiar livid appearance in the face but there was no cyanosis or any indication of anoxemia. The respirations being unhampered and regular, the pulse was about as rapid as at the beginning, but was of better tension and more regular.

Operation.—This was begun within two minutes. There was no noticeable alteration in either respiration or circulation when the incision was made. The corneal reflex was abolished from the time anesthesia was noticed to be present. It was necessary to increase the oxygen and diminish the nitrous oxid greatly to prevent an overdose of the anesthetic. By the continued application of the phonendoscope the heart was found to be acting fairly well. Everything was going along nicely until work was begun in the cystic duct and gall bladder; then respiration became uneven and forced and the heart sounds were barely discernible. The operation had been in progress for fifty-five minutes. There was no cyanosis present in the face and oxygenation seemed to be perfect, but it was noticed that the fingers of the patient were blue. This blueness gradually crept up the hands and arms, and as a large increase of oxygen and the discontinuance of the nitrous oxid did not remedy the condition we at once used pure oxygen, atropin, strychnin, but with no results, as the pulse and respiration ceased.

Artificial respiration and lung inflation with pure oxygen and other resuscitating measures were carried out for forty minutes without a sign of reanimation. This death was due to shock and primary cardiac failure. The anesthetic was blameable only in so far as it added its influence in bringing about a lower resistance of the organism.

CONTINUOUS AUSCULTATION

I wish to speak of the importance of continuous auscultation of the cardiac and respiratory rhythm during the entire course of general anesthesia. As far as I am aware I was the first person to bring into use this method of continuous auscultation during general anesthesia. My records will show that I have been using this method since May 2, 1906.

On the above date I used it for the first time, and have been using ever since a small stethoscope known as Dr. Kehler's. It was used in connection with a case for an extensive laparotomy performed by Dr. Hunter Robb at Lakeside Hospital, I used this because I felt the need of a more accurate method of ascertaining the condition of circulation during anesthesia. In the administration of nitrous oxid and oxygen, both hands of the administrator are kept busy most of the time, especially if things are not going well with the patient. From necessity I looked for some means of ascertaining the state of the heart and respiratory sounds, and purchased an improved Kehler's stethoscope. This little instrument is especially adapted for this purpose, as it consists of a flat disk to which a rubber tube is attached, extending to the ear of the anesthetist. The stethoscope, placed on the chest of the patient, will usually stay there without being held. If necessary, adhesive plaster can be used to hold it if there is any tendency for it to be displaced.

An anesthetist will find this method to be of great value to him in the administration of all anesthetics. Uninterrupted information will be given to any and all change in the heart beat and respiration. When anesthetizing a bad subject in whom the operative risk is great, there is nothing that gives me so great a feeling of confidence as that of continuous auscultation. Every variation of heart sound is at once discernible, and what might be serious complications can be averted by the premonitory symptoms thus made manifest.

METHOD OF OVERCOMING RIGIDITY

One of the main objections to nitrous oxid with oxygen as the anesthetic in major surgery is the rigidity sometimes encountered. In my practice about 10 per cent. of the patients can not be fully relaxed in cases in which complete relaxation is required. Not caring to resort to other general anesthetics for this 10 per cent. of cases, I have used numerous drugs before and during anesthesia. My best results were obtained when 1/4 to 1/8 gr. morphin sulphate and 1/100 to 1/150 gr. atropin were given hypodermically one-half hour before the operation. At least 8 per cent. of the 10 per cent. can be satisfactorily handled under this treatment. By this method we get a more tranquil anesthesia, accompanied by almost complete relaxation even for rectal and like surgery. A much larger percentage of oxygen can be given and a smaller amount of nitrous oxid is necessary, so that a beautiful anesthetic state is produced. In these exceptional cases in which any anesthetic would be taken badly, I find it far safer to precede the nitrous oxid and oxygen with the morphin and atropin, because the patient would have to be almost asphyxiated in order to produce the desired depth of anesthesia without it.

I do not advise the use of morphin as a preliminary to nitrous oxid and oxygen in the hands of a novice or one of little experience with this anesthetic agent, however. The reason is that respiration is more apt to cease, which is the tendency under nitrous oxid. This being so, it is much harder to re-establish respiration than if morphin had not been used. In the hands of an expert, this combination is about ideal for prolonged anesthesia in extensive major surgery. One who is taking up the administration of nitrous oxid and oxygen should undertake only simple cases until he has fully mastered the more or less complicated apparatus and has gained experience with this evanescent agent. If the desired depth of anesthesia can not be obtained in his hands with the nitrous oxid and oxygen alone, he should resort to ether in combination with the nitrous oxid and oxygen. It would be much safer probably than the morphin.

APPARATUS REQUIREMENTS

In order to administer nitrous oxid and oxygen properly it is essential that a perfect working apparatus be used. The apparatus should embody the following requirements: There should be 4 cylinders attached, 2 containing nitrous oxid and 2 oxygen. When one cylinder is exhausted, there is no time lost in turning to the other one. The empty one can be taken off later and a full one replaced, so that the anesthetist need not worry lest his supply should fail him at an inopportune time.

There should be means of warming the gas, not theoretically but practically, so that the gas is warm when it is inhaled. All channels from the bag to the inhaler should be large and unobstructed, so that no strain will be thrown on the respiratory mechanism. In fact, the gases should be under a slight pressure in the inhaler if the best results are to be obtained. This is accomplished by a delicate spiral spring on the expiratory valve. The two gases should not be mixed in the bags, but just before entering the inhaler. A transparent face-piece is advisable, so that the features of the patient may be always visible. If there is retching it can be seen if vomit comes from the mouth without raising the inhaler. If a mouth-prop is being used it can be seen whether it is in place or not. Such an inhaler is more easily kept aseptic. There should be means for nasal inhalation for all work in the mouth or throat, so that nitrous oxid and oxygen can be continued for any length of time.

There is no reason why anesthesia should be short for operations in the mouth or throat if the operation requires time. There should be an attachment, so that varying percentages of ether can be administered in combination with the nitrous oxid and oxygen or in sequence. The apparatus should embody all the above requirements and should be of a portable nature, so that it can be easily carried from place to place.

TECHNIC FOR OPERATIONS ELSEWHERE THAN IN MOUTH AND THROAT

The technic for the proper administration of nitrous oxid and oxygen for an operation other than in the mouth or throat is as follows: A plentiful supply of the two gases is imperative. The two bags are filled with their respective gases. The valve from the nitrous oxid bag is opened just as the inhaler is adjusted on the face. The nitrous oxid is allowed to flow from the cylinder through the warmer to the bag and should be adjusted so the bag will be under a little tension all the time. After the patient has been breathing the pure nitrous oxid for a few seconds (the time will vary from five to fifteen seconds), about 2 or 3 per cent. of oxygen should be admitted and this increased more or less rapidly as symptoms indicating its need arise. As a rule, the patient should pass into profound anesthesia within two or three minutes, but complete relaxation does not take place until a little longer time has elapsed. When surgical anesthesia has been obtained it can be maintained as long as desired by the proper proportions of the nitrous oxid and oxygen. The symptoms of nitrous oxid and oxygen anesthesia are the same as those obtained with the other general anesthetic agents. I have no special guide to anesthesia under this anesthetic, but I watch the respiration, color of the face, heart sounds, and reflexes of eye.

It is important to keep a constant, even flow of nitrous oxid into the bag and to deepen or lighten the anesthesia by decreasing or increasing the amount of oxygen. I am able to obtain a more even anesthetic and more complete relaxation by this method than any other. The great trouble is to get the nitrous oxid to flow evenly.

If conditions are such that the desired depth of anesthesia and relaxation can not be obtained with the nitrous oxid and oxygen, a small percentage of ether, varying in amount, should be given without interfering with the amount of nitrous oxid and oxygen. By this means all patients can be successfully anesthetized. Just how often it will be necessary to resort to the addition of ether will depend largely on the skill of the anesthetist. In my hands about 10 per cent. of the patients will require the additional help, if morphin has not been given previously.

TECHNIC OF OPERATION ON MOUTH AND THROAT

If the operation is in the mouth or throat the nasal administration is indicated, and this is accomplished by means of a small nasal inhaler. This inhaler covers only the nose and does not hinder the operator in the least. The technic for the administration is the same as with the face inhaler, with this difference. If a rubber pad is held over the mouth of the patient he is compelled to breathe through the nose until complete anesthesia has been induced. When work is commenced in the mouth or throat the exhaling valve in the inhaler is closed and the nitrous oxid with oxygen is forced through the nose into the mouth under sufficient pressure to keep the patient fully anesthetized as long as desired.

I have had over 1,500 tonsillectomies, tonsillotomies and adenectomies in which anesthesia was required for a few seconds to thirty minutes, and have not had a patient who could not be kept under to the completion of the operation. The advantages of this anesthetic in surgery of the mouth, throat and nose are that it is not unpleasant to the patient; anesthesia soon induced; any position of the patient can be utilized; the cough reflex is maintained, preventing inhalation of blood and tissue, quick recovery from the anesthetic state without nausea and vomiting, unless blood and tissue have been swallowed, and, above all, the safest anesthesia known. The same preparatory requirements should be carried out for nitrous oxid and oxygen as for other general anesthetic agents, except for minor operations, when only light and short anesthesia is required. Under such conditions nitrous oxid and oxygen can be administered satisfactorily in most cases.

DANGERS

The dangers encountered in the administration of nitrous oxid and oxygen are not many, but the condition and state produced are not natural, so necessarily there are dangers of more or less extent. The principal danger of nitrous oxid and oxygen anesthesia is that of asphyxiation. The asphyxial element entering into the anesthesia is due to the necessity of administering nitrous oxid almost in its pure state, in order to bring about that degree of saturation necessary to produce anesthesia. The asphyxial element is influenced also by the following factors: the susceptibility of the patient to the influence of the anesth[illegible] erament of patient, freedom of the respirator[illegible] om obstruction, reflex effects of the operativ[illegible] s and the skill with which the nitrous oxid with oxygen is being administered. A certain amount of cyanosis is not objectionable with nitrous oxid and oxygen anesthesia, as it does not necessarily indicate an overdosage of the anesthetic, for it is not caused by cardiac or respiratory depression, but is simply a capillary stasis due to insufficient oxidation, and clears up readily when oxygen is admitted. Asphyxia, however, should not be allowed to enter into the procedure too much for any great length of time, for there is a damming back of the venous blood, throwing more or less strain on the right heart, and congestion and dilation of the brain are produced. All this can not fail to produce some deleterious effects if persisted in for a great length of time. The most noticeable effect from extreme cyanosis is a severe headache, which will not subside in some cases for two or three hours. It is hard to see how nitrous oxid could produce death except from asphyxiation, but I believe that this anesthetic can produce death without the asphyxial element entering into it at all. I have had cases in which I had an overdosage of the anesthetic (without asphyxial symptoms) to that extent that circulation was not discernible and respiration was all but imperceptible. This condition was quickly changed by a large increase of oxygen. I hope to bring out more along this line in the near future, as we are watching our hospital cases closely and hope to establish something authentic.

There is another condition which I have noticed about fifty times during my experience with this anesthetic, and that is the tetanic cramps in the hands, arms, feet and legs. The hands are so cramped that the thumb is drawn to the center of the palm and resists force to remove it. This condition has occurred in short cases mostly, but in one case it came on after the patient had been under the anesthetic about half an hour and continued through the anesthetic about half an hour longer. On recovery the patient experienced some pain in the hands, arms, feet and legs. A brisk rubbing was maintained for twenty minutes, when the condition subsided. Pure oxygen and strychnin were administered also. In every case in which this condition was manifested the patient's physical condition was either in bad shape or they were of a neurasthenic temperament or both. I speak of these things to show that there is a great deal yet to be learned about nitrous oxid and oxygen as an anesthetic.

Blood pressure is slightly raised during nitrous oxid and oxygen anesthesia, but this is influenced greatly by the asphyxiation that accompanies it. This point and other effects on the blood have been brought out by Drs. Hamburger and Ewing of Chicago in their experiments. These experiments were not conducted over a long series of cases, but enough was brought out, I think, to prove the correctness of the statement that "nitrous oxid anesthesia does not reduce hemoglobin and thereby cause anemia; that it does not cause increased hemolysis; that what apparent change it does produce on hemoglobin and red cells is transient and of no clinical significance . . . that nitrous oxid causes no permanent effect of any significance, from the standpoint of blood changes."

The increase of venous blood pressure during nitrous oxid and oxygen anesthesia was manifested very forcibly in a case we had lately. The patient had been burned badly some time before, and her right side from the hip to the shoulder, including the arm, was denuded of epidermis and was covered with unorganized granulated tissue through which frail vessels ramified. The patient was anesthetized in about two minutes with nitrous oxid and oxygen, passing into profound anesthesia without any cyanosis. In about five minutes it was noticed that the veins in this frail tissue were filling up and bulging out in places as large as a man's finger. Then they would rupture. The bleeding was not troublesome, as the vessels were not much more than capillaries. During this phenomenon oxygen was increased to such an extent that a good florid color was produced; then the swelling of the vessels would subside somewhat, but not entirely. This was a practical demonstration as to the increased blood pressure in the veins under nitrous oxid and oxygen anesthesia.

ADVANTAGES

Of all that has been said in favór of nitrous oxid with oxygen as an anesthetic, there is nothing more important or more in its favor than the freedom from nausea and vomiting. This freedom from nausea and vomiting will depend to a great extent on the evenness of narcosis produced, preparation of the patient for the anesthetic, and purity of the gases. With a patient properly prepared and anesthesia evenly maintained with pure nitrous oxid and oxygen, nausea and vomiting will be a rare occurrence, indeed. In all my work I have had only five cases in which persistent vomiting was encountered, and in none of these did it last over six hours.

As a rule patients who have been operated on under nitrous oxid and oxygen anesthesia get along better than when other general anesthetics are used. They are less sick, can take nourishment quicker, have fewer complications, and in every way have a better chance for a speedy and complete recovery.

My object in presenting this subject before a section of the American Medical Association is to encourage the professional anesthetist to take up nitrous oxid and oxygen as a general anesthetic and develop it to a science. It is essential that great advancement must be made along the line of anesthesia to keep pace and to the forefront with other branches of medicine and surgery, and this can be accomplished only by the efforts of the medical man as a professional anesthetist.

ABSTRACT OF DISCUSSION

Dr. E. S. Talbot, Chicago: Has Dr. Teter paid any attention to the urine in these cases? Did he notice the urinary acidity and indicanuria?

Dr. Teter: The patients have been watched by the surgeon afterward, and they have not reported any case in which there was irritation of the kidneys.

Dr. Talbot: My practice is such that I use anesthetics very little along that line, and I have only noticed in three or four cases excessive urinary acidity and considerable indicanuria. Now, whether the administration of the nitrous oxid has anything to do with that I do not know. It would seem to me a desirable thing to take up along the line of Dr. Teter's work, for he has opportunity to observe such a large number of cases.

Dr. S. McCurdy, Pittsburg, Pa.: The subject of anesthetics has been discussed and various anesthetics introduced as a substitute for ether from time to time, but the general surgeons throughout the entire world and in America especially depend on ether. In certain sections of this country and in Europe they use chloroform. From time to time we have introduced anesthetics which are more prompt in their action; but to get the best results from any anesthetic it is necessary to have a man skilled in the administration. Does Dr. Teter know to what extent this combined anesthetic has been introduced in the various parts of the country, and to what extent has it it been substituted for chloroform and ether. I tried somnoform for a while, but had a scare or two and went back to ether or chloroform. I use ether in almost all my operations.

Dr. John E. Nyman, Chicago: It so happens that I can speak of a case of nitrous-oxid and oxygen anesthesia for pro longed surgical operation. The patient, a woman, had mitral insufficiency and marked albuminuria. Both the diagnosing physician and the operating surgeon said that the administration of the ordinary anesthetic would probably result in uremic poisoning within ten days, provided the patient did not die from cardiac insufficiency during the operation. Nitrous oxid and oxygen anesthesia was finally suggested. The operation was for ventral hernia, in which there were many adhesions and many evidences of adhesions of the intestines. The anesthetic was begun about 9 a. m., and in twenty seconds the patient was completely anesthetized. At 9:45 the patient was in bed and had so far come out of the anesthetic that she was able to talk. About an hour after emerging from the anesthetic she had a period of severe hysterical reaction, which, however, passed away very quickly. There were no sequelæ of any importance following the operation. At 1 o'clock she said she was very hungry, and liquid nourishment was given her. At 6 o'clock that night solid food was given her. I might say that it was found that the adhesions were producing symptoms of obstruction simply from pressure. No resection of the intestine was performed. There is no question but what, in operations on the intestines, continued muscular retching after the operation must have a deleterious effect on the result of the operation. In this case it was absent. A little irregularity of the heart developed during the anesthesia, but that passed away on increasing the oxygen. There was absolutely no effect, either immediately after the operation or subsequently on the character of the urine, and seemingly the kidneys had not been affected as a result of the anesthetic. I have since been instrumental in having the anesthetic used in three other similar cases. It seems to me that it is an ideal anesthetic.

Dr. W. W. Babcock, Philadelphia: I think the subject of anesthesia has not been developed along any of its lines so fully as it should be. I have tried this method of nitrous oxid with oxygen to a limited degree and in some cases have been very much pleased with it. The only serious result was in the case of a child with an affection of the pharynx; the child suddenly became pale, respiration ceased, and it required artificial respiration for a considerable time to resuscitate the patient.

The problem in regard to anesthesia is not alone the anesthesia produced, but the ease with which the surgeon can do his work. In certain parts of the body there must be good relaxation or the surgeon will be hampered. Especially is this true of the abdominal cases; the patient may be entirely unconscious, but the muscles may remain so rigid that the operation will take twice as long, and may require much more violent manipulation of the tissues. Although the mortality from the anestesia may be low, the operator's mortality may be increased from the extra time and manipulation required. Thus it is that at times nitrous oxid may indirectly increase the operative mortality. I think that it is usually difficult in abdominal operations to secure as complete relaxation with nitrous oxide and oxygen as can be obtained with ether. I confess I am not able to depend upon skilled anesthetists; I have to depend on the resident physicians as a rule. As very few residents develop sufficient skill to maintain nitrous oxid-oxygen anesthesia an hour or more, I have restricted this anesthesia for operations on the head, arms, legs, etc., parts which might be immobilized should the patient move. I have feared to undertake abdominal operations, owing to the fact that the patient might be over anesthetized and in spasm, or that he might be permitted to come out. There are other anesthetics which have not been developed, such as hyoscin, morphin, etc. Combinations of these drugs I think form an ideal anesthetic for selected cases from the point of comfort of the patient, although they are not always the most desirable for the operator. After a single hypodermic injection the patient may imperceptibly lose consciousness, and then after a period of time which may last three hours, five, ten or twelve hours, the patient gradually regains consciousness, entirely oblivious of the fact that anesthesia has been produced or that anything has been done. If one will select patients requiring serious operation, from the debilitated, who are over 35 years of age, and will carefully use this method of narcosis, excellent results may be obtained.

The subject of local anesthesia has not been fully developed. The control of tic douloureux by injecting alcohol into the nerves as they emerge from the base of the skull, demonstrates a method by which we may anesthetize the entire distribution of a nerve trunk, for example, of the inferior maxillary distribution of the fifth nerve. The foramen ovale may be reached by running a syringe directly above or below the middle of the zygoma, the needle being directed upward, backward and inward until one reaches the pterygoid plate. Then the needle is deviated so it goes by the edge of the pterygoid plate into the nerve. In this way the entire distribution of the third division of the trifacial can be anesthetized. Introducing the needle backward, inward and upward from the posterior edge of the malar bone, one can pass to the foramen rotundum and block another division, anesthetizing the upper jaw. Anything that develops these methods of anesthesia will be of inestimable value. Most of us are only trained in one anesthetic. It would be a splendid thing if we could be broadly trained, not only in ether anesthesia, but in local and spinal anesthesia, in nitrous oxid and the narcotics. We seem to have lost or neglected some of the ancient anesthetic skill of the Greeks, Romans and Chinese.

Dr. Charles K. Teter, Cleveland, O.: I have never had a patient yet whom I could not get under the effect of nitrous oxid and oxygen. I have had cases in which it was impossible to get perfect relaxation, but never had a patient whom I could not get thoroughly unconscious if I had an assistant to hold him during the excitable stage. If you can not apply the anesthetic and exclude atmospheric air you may have patients who will become excited and unmanageable. With sufficient assistance there is no reason why one can not anesthetize every patient.

I do not advocate one anesthetic for every condition. Certain people are more or less susceptible to certain drugs. If I find a patient taking one anesthetic badly I change to another I do not think an anesthetist is fully capable unless he can give any anesthetic and recognize when a change would be beneficial.

For the last three years nitrous oxid and oxygen has been taken up wonderfully by the medical profession. In Chicago last year I was surprised to find how much nitrous oxid was used in general surgery. At Cook County Hospital they have been trying to get results with nitrous oxid. Practically all the leading hospitals of Chicago, I found, were using this anesthetic more or less. In Cleveland we have been using it for six years or more. I was the first to popularize nitrous oxid and oxygen for general surgery in Cleveland. There are now four others specializing with it. So many men think all they have to do is to get the apparatus and that then they can use nitrous oxid. No one should attempt to give any anesthetic without the proper instruction.

It is invariably my method to have a hypodermic of morphin and atropin given before any anesthesia. In this way I can use less of the anesthetic and more of the oxygen. Once in a while I have a patient whom I can not even get relaxed in this way. Then I pass a stream of oxygen and nitrous oxid over the ether, taking up a smaller or greater portion of ether as may be necessary to get relaxation. After that I discontinue the ether and do the operation with straight nitrous oxid and oxygen; but I keep away from the ether as much as I can on account of the after effects.

The oldest patient I had was 92. The operation lasted about one hour and fifteen minutes. She took the anesthetic as nicely any any patient I ever had. I do not think age has any bearing; only I would be more watchful in a patient of advanced years on account of the condition of the blood vessels and the extra stress laid on them if there is much cyanosis accompanying the narcosis.

Another point I wish to bring up, and that is the question of taking up anesthetics as a specialty and sticking to it. The trouble is that the medical man has thought it beneath him to confine himself to anesthetics. Anesthetics are at the same place, one might say, that they were thirty years ago. This is not as it should be. The surgeons are all looking for the skilled anesthetist, and I find that the [illegible] when they understand it, as a rule, are willing to pay [illegible] ıetist his fee. I hope medical men will take up [illegible] 'elop it as a science, so that the [illegible] ality [illegible] greatly reduced.

THE INCIDENCE AND CAUSES OF TUBERCULOUS HEMOPTYSIS

A STATISTICAL STUDY*

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Hemoptysis is regarded as an important and much-dreaded symptom of pulmonary tuberculosis. Any new light shed on its etiology, therefore, must be welcomed. At the outset I desire to present a few facts bearing on the direct or pathologic etiology of hemoptysis, and, considered from this point of view, the cases fall naturally under two heads: (a) those caused by congestion of the bronchial mucosa and lung texture, and (b) those due to ulceration or erosion of blood vessels or rupture of miliary aneurisms.

A BLOOD-SPITTING CAUSED BY PULMONARY CONGESTION

It may be pertinently questioned, as pointed out by Garland, whether the degree of hyperemia in other acute or chronic affections of the lungs does not exceed that of the early stage of pulmonary tuberculosis, in which, however, there is a more marked tendency toward hemorrhages. It is undoubted that the walls of the blood vessels early manifest defective nutrition in this disease, as the result of endarteritis. On the other hand, the local, direct action of the tubercle bacilli is most probably a factor in bringing about pulmonary bleedings.

Cornet states that bleedings are apt to occur in the incipient stage: "While there are as yet few proteins and the living bacillus plays the chief rôle, the healthy wall of the smaller bronchial vessels is apt to become invaded and eroded, giving rise to a hemorrhage." The earlier hemorrhages in the course of pulmonary tuberculosis, however, are only rarely dependent on congestion or erosion of the bronchial mucous membrane, the usual source being the pulmonary vessels. The second pathologic stage, or that of commencing destruction of the capillary blood vessels, is probably the one at which hemoptysis is most rife.

B. HEMOPTYSIS DUE TO ULCERATION OR EROSION OF VESSELS OR RUPTURE OF MILIARY ANEURISMS

As regards hemorrhages in advanced pulmonary tuberculosis, my studies of the institutional records lend decided support to the view that fatal bleedings usually proceed either from a ruptured aneurism in a lung vessel or erosion of a pulmonary vessel, as first shown by Rasmussen.[1]

R. E. Thompson,[2] Brown,[3] and others have emphasized the fact that profuse or fatal hemorrhages never proceed solely from rupture of the pulmonary vein or bronchial artery. As pointed out in my previous article, this form of hemorrhage tends to develop in cases in which the processes of softening and liquefaction progress acutely and do not present endarteritis, owing to the short duration of the tuberculous process. In the majority of cases, however, pathologic changes in the walls of the pulmonary vessels with aneurismal dilatations precede the serious accident.

INCIDENCE

The present study embraces a totality of 5,891 cases of tuberculosis, of which 5,302 have been collected, since the publication of the results of my preliminary investigation into the subject,[4] from the records of a number of public institutions of Philadelphia. The names of these, and the number of case records derived from each respectively, are as follows: The Henry Phipps Institute, 3,010; Philadelphia Hospital, 1,539; Rush Hospital, 315; Jewish Hospital, 261; Philadelphia Clinic for Throat and Lung Affections, 93; Medico-Chirurgical Hospital, 43, and Protestant Episcopal Hospital, 41.

There is a consensus of professional opinion that hemoptysis is a frequent symptom of tuberculosis. In my former statistical inquiry it was shown to be present in 169 out of 589 cases, or 28.7 per cent. The larger statistics herein reported indicate a higher incidence—e. g., in a totality of 5,302 cases, hemoptysis was found in 1,950, or 36.6 per cent. In this connection it should be emphasized that not all cases were followed until the death or recovery of the patients, but many were discharged during the course of the affection. As stated in my former preliminary study, "the cases from private practice (kept under observation for a longer period, as a rule), numbering 289, the percentage in which hemoptysis is present, rises immediately from 28.7 to 41.8 per cent., but it is to be recollected that even these patients were under observation during less than half of their duration."

Again, if we consider only the data gleaned from the complete records of the Phipps Institute, the following result is obtained: Of a totality of 2,867 cases, 1,251, or 43 per cent., manifested this symptom. While the incidence of hemoptysis in the course of pulmonary tuberculosis can not be accurately stated for want of reliable statistics at present, I feel strongly that the above percentages would be further increased rather than decreased by an exact knowledge of the subject.

AGE AND SEX

Table 1 indicates the incidence of pulmonary tuberculosis by decades for both sexes. It will be observed that more cases occurred in males than females, there being 3,420 among the former and 2,453 among the latter. Prior to the twentieth year of age, however, the figures indicate a slight relative preponderance in favor of the female sex.

TABLE 1.—AGES BY DECADES AT WHICH TUBERCULOSIS OCCURRED

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Males	55	452	1,126	990	500	199	88	10
Females	38	367	662	825	327	191	50	8

TABLE 2.—AGES BY DECADES AT WHICH HEMOPTYSIS OCCURRED

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Males	11	203	364	382	192	108	23	4
Females	7	161	261	244	121	49	15	2

These larger statistics corroborate the findings of my preliminary study, namely, that hemoptysis is manifested earlier in life in the female sex than in the male (Table 2), the ratio being 5:4 in favor of the former sex. This view is also, in a measure, supported by the collective investigations of Thompson, who found that in 1,084 cases of tuberculosis, women showed greater liability to hemoptysis than men "in the relation of 65:62 per cent." In my own studies, however, this increased incidence in the female sex is, as shown above, confined principally to the first two decades of life.

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* Read before the American Climatological Association, at Fortress Monroe, Virginia, June 4, 1909.

[1] Anders, J. M.: Am. Jour. Med. Sc., January, 1902.

[2] Thompson, R. E.: Causes and Results of Pulmonary Hemorrhage, Smith, Elder & Co., 1879.

[3] Brown: Am. Jour. Med. Sc., August, 1906.

[4] Anders, J. M.: Hemoptysis due to Tuberculosis, THE JOURNAL A. M. A., 1907, xlix, 1067.

On the other hand, after the thirtieth year the numerical results show a preponderance of cases in the male sex.

My previous statistical inquiries indicated that profuse and fatal hemorrhages are less common in females than in males. The result is abundantly corroborated by the present more extensive collective investigations. For example, no instances of fatal bleeding were noted among the records of the cases occurring in females, whereas not less than 10 cases of hemoptysis proved immediately fatal among the tuberculous males.

The sexual difference in respect to the prognostic significance of this symptom is a point of considerable interest and importance. To attempt to advance an explanation of the fact, however, would lead directly into the realm of hypothesis at present.

SEASONAL INFLUENCE

My collective investigations into the seasonal relations of hemoptysis may be summarized in Table 3, which shows the number of cases of blood-spitting for the different months of the year, respectively, as well as the number of admissions for the same periods.

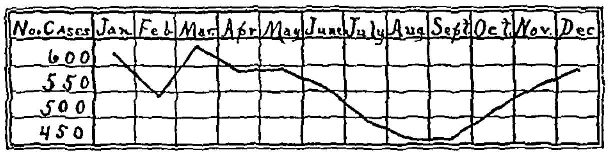

Chart 1.—Numerical range of cases of tuberculosis by months.

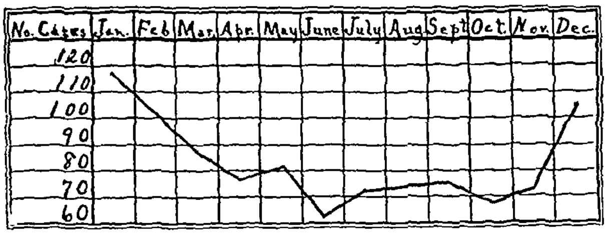

Chart 2.—Range of influence of seasons on the incidence of hemoptysis.

TABLE 3.—SEASONAL RELATIONS OF HEMOPTYSIS

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Admis.	627	545	638	590	595	551	495	455	454	510	551	582
Hemop.	116	102	86	76	81	65	73	74	76	68	85	107

A glance at Table 3 will show that hemoptysis in the course of tuberculosis is most prevalent during the months of December, January and February, while August, September, November, May and March, in the order named, seem to rank next. The figures in Table 3 are decidedly at variance with the numerical results of my former studies, from which the following summary of 157 cases for each month of the year is taken:

TABLE 4.—SEASONAL RELATIONS OF HEMOPTYSIS

Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
11	9	14	19	13	16	14	16	16	8	11	10

As will be observed, I have taken the precaution in my second more extended, statistical inquiries, which cover 5,302 cases (Table 3), to estimate the monthly prevalence on the basis of a comparison of the cases of blood-spitting with the total number of admissions to the various institutions whose records have been consulted, for each month of the year; and have also attempted below to express the same graphically. Chart I indicates the numerical range of cases by months based on the grand totality of 5,302 cases. Chart 2 will show the influence of the seasons on the incidence of hemoptysis; and the chances of error in this computation are believed to be inconsiderable.

These results are directly opposed to the preconceived notions of most writers, who contend that the spring and summer months give the highest incidence. In fact, the results of my previous investigations into the subject, which were far less extensive, however, were also in consonance with this widely accepted opinion. It has been held that the enervating effects of heat as well as the influence of marked oscillations of temperature and humidity during the spring months, as well as the "spring winds," are causative factors; also that sudden, extreme changes of weather bring about intercurrent acute bronchitis and an aggravation of the cough, which tends to excite bleeding. On the other hand, it is generally believed, contrary to what is shown herein, that a steady stimulating cold, such as prevails usually during the months of December, January and February, has a preventive influence.

The present studies having given a result precisely contrary to those of previous statistical inquiries by myself and various other observers, which were on a smaller scale, I further examined carefully the figures obtained from Phipps Institute alone, giving consideration to the associated conditions of special cases. The following Tables 5 and 6 will show the number of cases of tuberculosis admitted to that institution *for each month*, from Feb. 1, 1904, to Feb. 1, 1907, *and the* number of cases of hemoptysis for similar *periods of the* year:

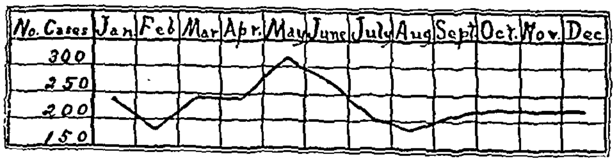

Chart 3.—Numerical range of cases of tuberculosis admitted monthly to Phipps Institute.

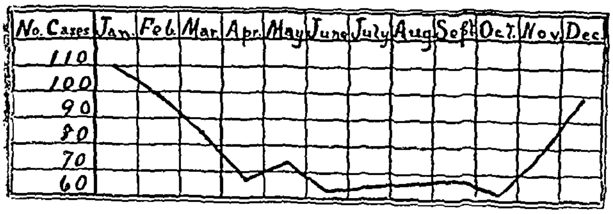

Chart 4.—Numerical range of cases of hemoptysis in tuberculosis by monthly occurrence.

TABLE 5.—NUMBER OF CASES OF TUBERCULOSIS FOR THE VARIOUS MONTHS OF THE YEAR

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1904	..	99	105	86	111	116	80	54	61	85	88	94
1905	81	24	54	82	119	91	68	63	45	60	55	50
1906	56	47	87	75	85	68	56	68	104	80	83	82
1907	98	..	..	..	..	..	..	..	..	..	..	..
Total	235	170	246	243	315	275	204	185	210	225	226	226

TABLE 6.—NUMBER OF CASES OF HEMOPTYSIS FOR THE VARIOUS MONTHS OF THE YEAR

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1904	..	56	42	23	23	26	25	21	23	21	32	36
1905	39	12	11	22	30	20	21	22	15	18	19	29
1906	27	28	32	21	21	18	19	23	31	23	26	32
1907	44	..	..	..	..	..	..	..	..	..	..	..
Total	110	96	85	66	74	64	65	66	69	62	77	97

Charts 3 and 4 are here given, *with a view to showing* both the seasonal relations of tuberculosis *and the* incidence of hemoptysis relative *to the total number of* cases admitted to the Phipps Institute during the various months of the year. It will be observed that they bear striking resemblance to those (Charts 1 and 2) based on the total number of cases from all sources.

It is well known that multiple hemorrhages occur in the majority of the cases of pulmonary tuberculosis, in which hemoptysis is among the clinical features. A strong tendency to recurrence is shown by my collective inquiries. Thus, in a totality of 3,142 cases of tuberculosis, recurring outbursts took place in 1,928, or 51.5 per cent. In 314, out of a totality of 3,092 cases of pulmonary tuberculosis, a single hemorrhage occurred. Mere bloody or blood-streaked expectoration was recorded in 879, or 16.5 per cent., in the total number (3,092). In 1,192 cases, or 24.4 per cent., out of the totality of 3,092 cases, the case records mentioned the fact that no blood-spitting took place. With regard to the stage of the tuberculous process, at which bleedings are most prone to arise, my figures indicate that in 1,439 out of 2,084 (in which the period of disease was given), or 69 per cent. of the instances, hemoptysis appeared in the first and early part of the second stage, or that of softening (ulceration). These results are in accord with those of my previous investigations, and they likewise support the views expressed above concerning the pathogenesis of the condition.

In my opinion, the questions raised by the present studies must find practical solution in similar collective investigations at the hands of physicians of the present and the future. It is quite possible, at all events, to amass data in this manner to permit of a reliable statistical demonstration of the facts. Obviously, the great importance of hemoptysis as a diagnostic feature of tuberculosis renders further observations along the line pursued in this paper extremely desirable.

Clinical Notes

A NEW FOOD SCALE

AN AID IN THE ADMINISTRATION OF QUANTITATIVE DIETS

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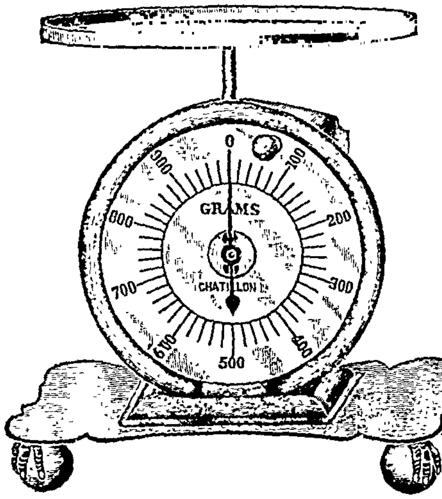
The importance of the exact measurement of the quantity of drugs administered to our patients has been recognized for many years. It is comparatively recently, however, that the value of the exact measurement of food has become generally accepted. Practically all careful physicians now realize the value of the food prescription, which indicates not only the quality, but also the quantity of food. This is particularly the case in those diseases in which metabolic disorders are prominent.

The great difficulty in practice has not been the giving of directions to the patient but the difficulty of having those directions properly executed. For drugs the teaspoonful, the tumblerful, the pill, the powder, the tablet, and the capsule, with the cooperation of the apothecary are simple and convenient means of furnishing fairly exact dosage. Every one, however, who has tried to prescribe food in *definite quantities* by weight realizes how difficult it is to obtain from the patient an intelligent cooperation, and I know of a number of physicians who, after some effort in this direction, have simply thrown up the undertaking and announce frankly that it is useless to attempt to prescribe a quantitative diet.

The obstacles from the patient's standpoint are not inconsiderable. In the first place they have been accustomed to eat in accordance with their fancy an amount large or small, and it takes no small amount of persuasion and education by the physician to convince them of the importance of uprooting the habits of a lifetime to conform to the new conditions. Secondly, the weighing of foods is not a small annoyance. A majority of our patients for whom it is desirable to prescribe a weighed diet are not ill enough to be housed in a sanitarium for any considerable period, neither can they afford, nor will they submit to the prolonged supervision of their food by an attendant at their homes. Rarely in my experience does one meet with a nurse, however efficient in other respects, who has had the particular training necessary to carry out the physician's instructions in regard to the administration of definite quantities of solid foods.

There are few households in which the presiding genius of the kitchen is sufficiently intelligent or eager to add to her duties to accurately weigh the food for one member of the family. As a rule the patient must do this for himself, and do it at the table; the difficulties of this procedure have been enhanced by the cumbersome apparatus and more or less complicated calculations which it has been necessary for him to employ. If we are to expect our patients to weigh their food we must make weighing as simple and easy for them as possible.



A food scale with an adjustable dial.

In order to obviate some of the difficulties I have devised a food scale, with the cooperation of Mr. George E. Chatillon, for the use of physicians and patients which I believe presents a number of features of distinct advantages. This is an accurate spring scale of modest dimensions, 6 inches high and with a 5-inch base, finished in nickel and, therefore, not too conspicuous to be used at the table. It is fitted with a broad circular plate which easily supports the dish on which the food is weighed and it has a base sufficiently wide to keep the scale from being easily upset. The scale is made to indicate grams, having a total capacity of 1,000 grams, the dial being figured for every 100 grams, with subdivisions indicating 20 grams each. By a special contrivance the dial can be quickly rotated to any desired point, by means of a small knob. The result is that the zero point can be easily brought to any position desired.

The method of using the scale is as follows: Suppose the food prescription for a given meal consists of

Meat	100 grams
Potatoes	80 grams
String beans	120 grams
Wheat bread	60 grams

An empty plate is placed on the scale and by means of the knob the dial is rotated until the zero point is opposite the end of the pointer; meat is placed on the plate until the pointer indicates 100 grams; the dial is again rotated until zero is opposite the pointer; potato is added until 80 grams are indicated, and so on, the zero point on the dial being each time brought opposite the pointer until at the completion of the operation we have on the plate all the food for the meal, each kind of food accurately weighed.

In order to get our patients to measure their diet the various articles of food must be weighed; no mere guess work will answer the purpose. The direction to take food in "portions," etc., is most unsatisfactory unless the patient has first learned by means of the scale just how large a "portion" the physician intends him to take. For example, a "portion" of roast beef as served in one of our best public restaurants is equal to two or three servings at the average family table, and by actually weighing "slices" of bread, which I have asked my patient to bring me, in order that I might determine their notion of a "slice," I have found values varying from 30 to 150 grams.

I make it a rule to have each patient whom I am treating for diabetes, obesity, etc., weigh all his food for a period of two weeks. It is surprising and gratifying to see how soon one gets to know just how large is a piece of meat, or fish, or bread which weighs 100 grams. After such practice for two or three weeks the patient can hit pretty close to the mark without actually weighing the food and after this needs to utilize the scale only as an occasional check to his newly acquired art or to determine the weights of new kinds of food.

I can not too strongly urge on every physician who uses the quantitative food prescription to familiarize himself with the weights of the various foods which he is prescribing. Theoretically one might, for example, wish to fill out the caloric value of the diet with 250 grams of cheese, but practically one will find considerable difficulty in making his patient take such an amount; the reason becomes very evident when one weighs out the quantity specified and sees for himself the actual bulk of this item. Familiarity with food weights will make it much easier to prescribe a diet well balanced not only as to its quality and caloric value but also with regard to the habits and customs of the average individual.

The new scale is offered as a simple and accurate means of weighing several foods of different kinds on one plate without mathematical calculations; its design makes it as little conspicuous as possible, and I believe it will be a material aid in inducing patients to undertake a carefully measured diet. It is manufactured by Messrs. John Chatillon & Sons, 85 Cliff Street, New York City.

Dental Prophylaxis.—No doubt much dyspepsia is due to decayed and defective teeth, which preclude complete mastication of the food (even if anybody in America had the time to eat properly). Dentists, like doctors, are now beginning to realize that their true mission is not "a general rebuilding system," but a systematic and well-considered effort to prevent and overcome the decay and loosening of human teeth.—*Scientific American.*

ACUTE ANAPHYLACTIC DEATH IN GUINEA-PIGS

ITS CAUSE AND POSSIBLE PREVENTION; A PRELIMINARY NOTE [*]

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The animals employed for this study were exclusively guinea-pigs which had been sensitized by a peritoneal injection of horse serum or by a subcutaneous injection of edestin (a proteid obtained from hemp seed). After a number of weeks the animals were tested. This was done by stretching them out on a suitable holder and injecting the horse serum (0.5 to 1 c.c.) or edestin (10 mg.) into a cannula inserted into the external jugular vein, recording at the same time the respiration or blood pressure or both. From the results which we have obtained we would like to call attention to the following:

1. *The animals die of asphyxia.* A few minutes after the intravenous injection of 0.5 to 1 c.c. of horse serum into a sensitized guinea-pig, it will be noticed that the respiration is remarkably modified: the chest no longer expands with each inspiration, but, instead, the front and sides of the thorax sink in. The respirations, which are much more powerful than normal and are accompanied by tonic and clonic convulsions, gradually become less and less and finally cease. The heart continues to beat regularly for minutes after all respiration has ceased. If an animal is allowed to breathe from a large air-bottle which is connected with a tambour, it will be seen that the tambour lever hardly moves while the animal is making these tremendous respiratory efforts; in other words, little or no air enters the lungs. If the blood pressure is recorded it will be seen that the blood in the cannula is black and the blood pressure first rises and then slowly falls.

2. *This asphyxia is due to peripheral causes,* for it occurs after section of both vagi and after the cord and medulla have been destroyed. If the cord and medulla are destroyed, artificial respiration, of course, must be given. Now, again, the blood turns black, and the chest no longer, as a rule, is expanded by the same strength of artificial respiration which before the injection of the killing dose of horse serum gave a good expansion of the chest. At autopsy the lungs present the typical picture of an acute anaphylactic death in guinea-pigs (described infra).

3. *This asphyxia is due to an inspiratory immobilization of the lungs.* If the chest of a guinea-pig killed by anaphylaxis be opened, it will be seen that the lungs hardly collapse, and apparently fill out largely the entire chest cavity. There is no marked collapse in typical cases when the entire lung is excised; they seem to be in a permanent state of inspiration. These lungs look pale pink and float lightly on water. Pieces of lung cut off do not collapse, but maintain their distention; the cut surface is moderately dry; pressure shows that this piece of lung is full of air. Usually the cut surface is fairly dry, but pressure at times shows small foci of fine white foam, as if there were some pulmonary edema. This immobility of the lungs in a more or less inspiratory condition is probably due to a tetanic contraction of the musculature of the fine bronchioli and alveolar ducts, imprisoning air in the alveolar sacs. A slight degree of pulmonary edema possibly also aids in the production of this pulmonary inspiratory-immobility.

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[*] From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.

4. *Atropin prevents or reduces these pulmonary symptoms.* If a guinea-pig sensitized with horse serum receives subcutaneously 0.5—1 mg. of atropin sulphate, some time previous to the killing dose of horse serum, it is usually found that the pulmonary symptoms described briefly above are absent or strongly reduced. We have had so far about twelve pigs which were prophylactically treated with atropin, and of these only two showed practically no effect. The others showed only slight or no pulmonary immobilization after the injection of a dose of horse serum which killed the control in a few minutes in the fashion described previously, or which produced this marked dyspnea with powerful diaphragmatic contractions and sinking in of the chest for a short time, after which respiration became gradually easier and the animal slowly recovered. The animals which recovered aided by atropin gained their normal state much more swiftly than the controls which escaped death. To illustrate we may state that an atropin pig began fighting with a neighbor less than one hour after the injection of horse serum, while its control was still weak and sick two hours after injection of a little less than the same dose of horse serum.

We fully realize that these few atropin experiments do not warrant a final statement, but it seems to us that their outcome was sufficiently clear to permit their publication with the other facts we have brought forward.'

EXPENSIVE MOLDS FOR SOLIDIFIED CARBON DIOXID

W. A. PUSEY, M.D.
CHICAGO

The use of solidified carbon dioxid has apparently risen to the dignity where many devices for molding it are being suggested. In particular my attention has been called lately to a very elaborate mold which is being exploited commercially. Physicians are being solicited to purchase the outfit; at least in one instance within my knowledge it has been installed by its sellers in the office of a non-medical woman who does shampooing and facial massages; and instruction in the therapeutic use of the method is incidentally given by the agent, who is, I believe, not a physician and who, to judge from my interviews with him, is not entitled to give instructions on the subject. I am sufficiently interested in the good repute of the method and its common adoption to feel called on to protest against this commercial exploitation and to say that I see no reason whatever for a physician expending any such sum as $25 for a mold for carbon dioxid.

With this mold, which compresses the solidified carbon dioxid so firmly that it forms a mass like ice, there is an objection, aside from the expense, and that is that you get so hard a mass that its face can not be pared or otherwise quickly shaped. The mass also is so firm that it does not adapt itself to any variation from a flat surface. For applications of solidified carbon dioxid to minute points not larger than an eighth of an inch in diameter this hard stick is an advantage, but for all other applications the compression of the solidified carbon dioxid into so hard a mass is, in my opinion, a disadvantage.

All that is necessary for using solidified carbon dioxid is a cloth, preferably a chamois skin, in which to collect the snow from the tank. This snow can be compressed into a solid mass with the hands (protected by the cloth) and then pared with a knife into any desired shape. It is more convenient for making the solid masses to have a few tubular molds from ¼ to an inch in diameter. These can readily be made by taking sections a couple of inches long of hard rubber or metal tubing. If one desires to get very firm blocks of snow they can be made in these tubules by compressing with a hammer and a small rod. For example, you can fill such a tube and pack it as firmly as possible with the blunt end of a lead pencil. Then you can take a small hammer and an old metallic thermometer case, and with this you can pound it down to any density desired. Of course, less crude methods than this of molding the snow can be used, but I refer to this method to illustrate how simple is the necessary equipment for handling solidified carbon dioxid for therapeutic purposes.

72 Madison Street.

New and Nonofficial Remedies

Since the publication of the book "New and Nonofficial Remedies, 1909," the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections to aid in the revision of the matter before publication in the book are asked for.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. PUCKNER, Secretary.

THYRESOL.—Thyresol consists chiefly of the methyl ether of santalol, $C_{15}H_{23}OCH_3$. It is prepared by the action of sodium methylate on "santal oil chloride."

Thyresol is a colorless liquid of aromatic odor, almost insoluble in water; easily soluble in alcohol and ether; soluble in concentrated sulphuric acid with a reddish-brown color. Boils at 149-156° C. (300.2-312.8° F.) under pressure of about 16 mm. On heating with hydriodic acid, santalyl iodide and methyl iodide are formed.

Actions and Uses.—Similar to sandal wood oil, but said to be practically free from irritant effects on the stomach and kidneys.

It is said to be useful in acute and chronic gonorrhea, anterior and posterior, and other conditions in which the sandal wood oil preparations are indicated.

Dosage.—0.5 Gm. (8 grains) 3 to 4 times daily, best given in milk or in gelatin capsules.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Farbenfabriken of Elberfeld Co., New York. U. S. patent No. 909,541.

ZINC PEROXIDE—Zinci Peroxidum.—Zinc Peroxide is the zinc salt, ZnO_2, of hydrogen peroxide, containing an admixture of not more than 55 per cent. of zinc oxide.

Zinc peroxide occurs as a yellow[illegible] powder; tasteless, odorless, non-hygroscopi[illegible] caustic nor irritant, and not more toxic th[illegible]e. It is insoluble in water, but gives to it [illegible]ction; it is soluble in cold dilute sulphuric [illegible]f oxygen and in dilute hydrochloric acid with liberation of chlorine. It gives all the reactions of peroxides, caramelizes sugar, disengages oxygen by the action of acids and in contact with living tissue. It is stable in the autoclave to 130° C. and at a dry heat to 150° C. and thus may be readily sterilized. Heated to higher temperature, it loses oxygen and forms zinc oxide. It should not respond to tests for calcium, magnesium, barium, sulphates, chlorides or carbonates.

0.2-0.3 Gm. zinc peroxide accurately weighed and added to 50 c.c. water and acidulated with 20 Cc. dilute sulphuric acid, should require for each 0.1 Gm. material used not less than 9.25 Cc. dilute tenth normal permanganate solution to produce a permanent pink color.

Action and Uses.—Zinc peroxide is used in the extemporaneous preparation of hydrogen peroxide for wounds, chronic ulcers, etc. It may be applied as a dressing directly on wounds, etc., where it produces hydrogen peroxide in situ.

For eczema and other skin diseases it is sometimes prescribed with half its weight of potassium iodide and one-tenth its weight of tartaric acid, the mixture liberating iodine on contact with moist surfaces.

Dosage.—It may be used as a dusting powder either alone or mixed with tannin, or in the form of gauze, or a 10 per cent. ointment.

PURIFIED EXTRACT OF ERGOT—Extractum Ergotæ Purificatum.—Ergotin Bonjean. Extractum secalis cornuti (Pharm. Helvetica, edit. 4); Extractum ergoti (Pharm. Française, 1908). An aqueous extract of ergot purified by alcohol.

Powdered ergot is extracted by percolation with water and the percolate concentrated, diluted with alcohol, allowed to stand, then filtered and the filtrate evaporated to a soft extract.

It is reddish brown, of characteristic odor and taste, soluble in water and in a mixture of equal parts of water and alcohol. The aqueous solution is yellowish brown and acid in reaction. (Pharm. Helvetica, edit. 4).

If 2 Cc. of an aqueous solution (1:20) is mixed with 7 Cc. of water and 1 Cc. Mayer's reagent there should appear at most but slight turbidity; the turbidity is increased by the addition of a trace of hydrochloric acid; the further addition of 5 drops of dilute acid produces within a few minutes a flocculent precipitate.

10 Cc. of a 1:20 solution of purified extract of ergot should become turbid upon the addition of 1 Cc. picric acid solution and precipitation should occur within five minutes.

If a solution of 0.2 Gm. purified extract of ergot in 5 Cc. water is made alkaline with 1 to 2 drops of ammonia water and then shaken out with ether, the ether extract evaporated and the residue dissolved in 2 Cc. acetic acid to which a trace of ferric chloride has been added and the mixture carefully poured upon concentrated sulphuric acid, a bluish violet color appears at the zone of contact (Pharm, Helvetica, edit. 4).

Action and Uses.—Purified extract of ergot has the action and uses of ergot.

Dosage.—0.2 to 0.5 Gm. (3 to 8 grains).

This preparation should not be confused with the following:

Ergotin Wernich (Pure Dried) is a purified and dialyzed dried aqueous extract of ergot.

Ergotin Wernich (Liquid) is a dialyzed extract of ergot, in the form of a reddish brown liquid.

Ergotin Wernich (Soft) is a purified and dialyzed soft extract of ergot; a reddish brown syrupy liquid.

Ergotin Wiggers (Pure Dried) is a dried, alcohol purified extract of ergot.

Ergotin Yvon is a fluidextract of ergot prepared by extracting with dilute solution of tartaric acid.

SODIUM PEROXIDE—Sodii Peroxidum.—Bioxydum natri (Pharm. Hispanola, edit. vii).

Sodium Peroxide is the sodium salt of hydrogen peroxide containing at least 75 per cent. Na_2O_2.

Sodium peroxide occurs in the form of a white, or yellowish, amorphous powder. It is soluble in water, with evolution of heat, and forms a solution of hydrogen peroxide, from which latter, oxygen is liberated by the heat of the reaction. It dissolves in cold dilute acids forming a solution of hydrogen peroxide. When heated sodium peroxide becomes darker, but on cooling resumes its original color. It does not react with alcohol, but it ignites ether on contact. A mixture with red phosphorus explodes under pressure or on being struck. It is an extremely powerful oxidizing agent.

Sodium peroxide should not respond to tests for sulphates, chlorides, phosphates, nitrogen and heavy metals.

Action and Uses.—Sodium peroxide is not used internally but has been used in acne, applied in the form of a paste prepared with liquid paraffin, or as a soap to remove comedones.

It has been suggested as an air purifier, based on the theory that the moisture of the air would liberate oxygen and the alkali simultaneously formed would absorb carbon dioxide.

Proprietary Preparation:

OXONE.—A name applied to fused sodium peroxide containing a fractional percentage of a catalytic agent. It is said to yield its entire content of available oxygen in gaseous form, upon contact with water.

Manufactured by The Roessler & Hasslacher Chemical Co., New York. U. S. Patent No. 788,256. U. S. patent application filed March 13, 1906. Serial No. 305,800. U. S. trademark No. 46673.

APINOL—Apinolum.—Apinol is a product obtained in the destructive distillation of the wood of Pinus palustris and Pinus australis; that portion boiling at 182.2° C. to 193.3° C. (360° to 380° F.) is collected and purified. It is claimed to consist mainly of leavomenthone, $C_{10}H_{18}O$.

Apinol is obtained from the products of destructive distillation of pine wood. After the removal of turpentine and other low boiling constituents by distillation, the portion boiling between 182.2°-193.3° C. (360°-380° F.) is collected and purified.

It is a clear amber-colored oil with an odor resembling that of the pine, having a specific gravity of 0.946 and an approximate boiling point of 182.2° C. (360° F.). It is neutral in reaction.

Actions and Uses.—Apinol is said to be an antiseptic, local anesthetic and expectorant.

It is said to be useful when applied externally to wounds, burns, ulcers, and denuded surfaces for the relief of pain and promotion of healing.

It is claimed to be of service in gastric and duodenal ulcer, chronic gastritis and enteritis, and in all forms of inflammation of the respiratory tract, used by inhalation, it is said to assist in freeing the respiratory passages from accumulated mucus.

Dosage.—In gastric and duodenal ulcer, typhoid fever and catarrhal gastritis in doses of from five to fifteen minims with cane sugar as a menstruum. As much as a half ounce is said to have been taken at one time with no sign of irritation or toxicity.

Manufactured by the Apinol Chemical Co., Wilmington, N. C., U. S. trademark No. 29,848.

ARTICLES ACCEPTED FOR N. N. R. APPENDIX.

Sharp & Dohme, Baltimore, Md.:

Compressed Tablets Anesthesin, 2 1/2 grains.—Each tablet contains: anesthesin 0.15 Gm. (2½ grains).

Soluble Hypodermic Tablets Atoxyl, 1/3 grain.—Each tablet contains: atoxyl 0.02 Gm. (⅓ grain).

Ampules Solution Atoxyl, 10 per cent., (Sterilized).—Each 100 Cc. contain: atoxyl 10 Gm. (each fluidounce contains 48 grains) dissolved in distilled water.

Ampules Solution Atoxyl, 10 per cent., with Novocaine, 1 per cent. (Sterilized).—Each 100 Cc. contains: atoxyl 10 Gm. and novocaine 1 Gm. (each fluidounce contains atoxyl 48 grains and novocaine 4 8/10 grains) dissolved in distilled water.

Soluble Hypodermic Tablets Novocaine, 1/3 grain.—Each Tablet contains: novocaine 0.02 Gm. (1/3 grain).

Soluble Tablets Novocaine, 1 1/7 grains.—Each tablet contains novocaine 0.074 Gm. (1 1/7 grains).

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage forms of accepted articles have also been accepted for N. N. R.:

Alypin Tablets, 3⅓ grains.
Alypin Tablets, 1⅛ grains.
Alypin Tablets, ¾ grain.
Alypin Tablets, ⅓ grain.
Helmitol Tablets, 5 grains.
Sabromin Tablets, 8 grains.
Veronal-Sodium Tablets, 5 grains.

Therapeutics

SHOCK

In spite of all investigations and of the vast clinical experience, the treatment of shock is still unsatisfactory. The etiology and pathology of the condition is not perfectly understood. Consequently, any scientific investigations that would tend to clarify the cause of shock and the exact condition of the circulation in shock must be welcomed by both physician and surgeon.

It has, of course, long been recognized that acute pain, whether caused by injury, the passage of a calculus through a duct, neuritis, or even acute neuralgia, can cause such a depressed condition of the circulation as to produce shock. Shock caused by severe pain has been supposed to be due to either slowing of the heart and imperfect cardiac contractions by reflexes through the pneumogastric nerve, or by such acute pain interfering with the vasomotor center as to cause greatly diminished arterial tension, and from these actions circulatory depression resulted. It has long been known that abdominal operations particularly predispose to subsequent shock. This has been thought to be due to possible sympathetic nerve disturbance or to a disturbance of the normal activity of the suprarenal glands, or to secondary overwhelming depressant action from the anesthetic.

There can be no question that acute pain from injury or other cause, or that acute pain suffered from the cutting or injury of nerves in incomplete anesthesia, or that acute pain suffered from such an injury, after an operation is over and the patient out of the anesthesia, is a direct cause of shock, and consequently such pain should always be stopped by the amount of anodyne that is necessary to stop it.

Recent investigations by Yandell Henderson, assistant professor of physiology at the Yale Medical School, seem to show that the reason that acute pain causes shock is not because the pneumogastric is unduly stimulated, is not because the arterial tension is greatly lowered, but is because the inhibition of metabolism from the pain and the increased respiration caused by the pain makes a greatly diminished amount of carbon dioxid in the blood, as well as a hyperoxygenation of the blood. This lack of carbon dioxid in the blood causes a lack of venous tone, and this lack of venous tone diminishes the amount of blood that reaches the auricles and therefore ventricles of the heart during diastole. This means that the output of the heart from each beat becomes less, and in profound shock insufficient. Henderson has found that, besides the inhibition of pain by morphin, ether and chloroform inhalations, in sufficient amount to prevent the appreciation of pain, will prevent shock. He seems to have demonstrated that even when the anesthetic seems sufficient that the sensitive nerves still note injuries and pain and shock may be caused, unless the anesthesia is profound. This means clinically that anesthesia should always be sufficient before operation and during operation. Henderson has also shown that when shock is present it is more satisfactorily treated, and generally successfully combated, by any means that increases the carbon dioxid content of the blood, and such treatment is far ahead in its success of cardiac stimulants and vasoconstrictors. A lowered arterial tension improves rapidly when physiologic saline impregnated with carbon dioxid is administered intravenously. Such improvement is far ahead of transfusion of physiologic saline that does not contain the carbon dioxid.

Henderson attributes the lowered carbon dioxid content of the blood largely to the nervous excitement before operations causing rapid breathing; also the increased breathing caused by the first part of the anesthesia, ether being particularly a respiratory stimulant, giving a condition of hyperoxygenation and lessened carbon dioxid content of the blood, and shock is therefore easily caused.

Henderson terms this condition of diminished carbon dioxid content of the blood acapnia (from the Greek kapnos, meaning smoke), literally a smokelessness.

Henderson further finds by other experimentation that intestinal paresis or paralysis, with consequent abdominal distention, is largely due in abdominal operations to exposure of the intestines to the air. The harm done by such exposure he finds is due to the loss of carbon dioxid from the intestinal vessels. Although this amount is small compared with that lost by the lungs in rapid or deepened respiration, this loss added to that from the lungs in abdominal operations predisposes to shock. He also finds that warm moist applications, the method adopted by most surgeons to keep the intestines at the normal temperature, predisposes to a loss of this carbon dioxid gas, and therefore predisposes to intestinal paralysis. He has shown by experiments on dogs that if the exposed intestines are covered so that the atmosphere does not get to them, he can increase normal peristalsis of the stomach, small intestine, and colon by directing under the covering warm air containing carbon dioxid gas. Such gas also prevents the congestion of the exposed intestines.

Articles on these investigations by Henderson will be found in the *American Journal of Physiology*, February, 1909, and April, 1909, and his views were also presented in a practical manner at the meeting of the American Therapeutic Society, held at New Haven, in May, 1909, a brief abstract of which appeared in THE JOURNAL, June 5, p. 1868.

The practical utility of the above experiments shows:

1. Severe pain should never be allowed; it should be prevented by enough of the narcotic which seems indicated in the individual case.

2. Anesthesia should be complete both before beginning operation and during it.

3. In abdominal operations moist warm cloths should not be applied to the intestines, and except in the exact region of operation the intestines should be protected with some covering that will prevent the exchange of gas from the intestines with the external air.

4. A tank of carbon dioxid gas should be at hand to perfuse through warm water to be directed into the abdominal cavity, if shock occurs during abdominal operations.

5. If shock occurs after operations or after other injuries, transfusion into the veins of physiologic saline saturated with carbon dioxid should be done. Also, at any time during shock, air, or oxygen, with moderate amounts of carbon dioxid should be inhaled.

6. Whenever there is likelihood of pain following the recovery of the patient from anesthesia, morphin should be injected to prevent it.

7. However valuable strychnin injections may be as a stimulant to the nerve centers and as a stimulant to general metabolism to perhaps promote normal cellular activity and perhaps therefore the production of a normal amount of carbon dioxid, excessive amounts of strychnin as a cardiac and respiratory stimulant in shock should not be used. Large doses of strychnin, or strychnin repeated too frequently, seem to interfere with the normal diastole of the heart and prevent the normal filling of the heart cavities and therefore the normal output of the heart into the arteries. Henderson seems to have shown that such cardiac stimulants can not increase the output from the heart cavities.

8. Digitalis would rarely be indicated, if ever, in acute shock. The greatest advantage of digitalis is in cardiac dilatation, and its best activity is in cardiac hypertrophy with dilatation.

If Henderson's investigations are of clinical value, atropin as a respiratory stimulant and a vasoconstrictor would seem contraindicated in shock. The same would be true of suprarenal preparations. Nitroglycerin would also probably not be indicated. Alcohol in doses sufficient to cause cerebral depression and therefore inhibition of metabolism would seem to do harm. Camphor as a cerebral stimulant, perhaps thus increasing metabolism, would seem to be indicated, and hypodermic injections of saturated solutions of camphor in olive oil have many times seemed one of the most valuable stimulants in shock. When the exact physiologic action of ergot on the circulation is better understood, probably the reason will be found for the marked benefit in shock and circulatory depression from its subcutaneous injection.

Whatever the outcome may be of clinical experience, with the apparent logical deduction from Henderson's experiments, anything that will prevent the senseless administration of enormous doses of the so-called cardiac and arterial stimulants and tonics to patients who are in shock will redound to the advantage of the sick.

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[*For other information see second page following reading matter*]

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EPIDEMIC MENINGITIS

In March, 1905, the Health Department of New York City appointed a commission for the investigation of cerebrospinal meningitis, and the work of the bacteriologists, Drs. Elser and Huntoon, of Cornell University Medical College, has been continued until this time, now being reported in a lengthy monograph.[1] This exhaustive, careful piece of research will unquestionably find a place among the most important studies on meningitis yet recorded. The authors have studied bacteriologically 210 cases of epidemic meningitis, and have made extensive investigations of the biology of the causal organism, its differentiation from allied cocci, the serum reactions of man and laboratory animals, the pathogenicity of the meningococcus for lower animals, its viability, and the mode of transmission and invasion of man in epidemics.

Perhaps one of the most striking conclusions reached by the authors is the essential importance of meningococcus carriers in the transmission of epidemic meningitis. As shown by Flügge and others, the number of persons who become meningococcus carriers during epidemics of meningitis is far greater than the number of cases of actual meningitis. A large proportion of the individuals living in the immediate neighborhood of meningitis cases act as meningococcus carriers, without suffering any symptoms or inconvenience whatever. Perhaps 70 per cent. of such exposed persons may harbor meningococci in the respiratory passages, although other individuals equally exposed but not inhabiting the same dwellings seldom become infected. Apart from epidemics, the meningococcus can be found but rarely in healthy individuals, but apparently there are occasional persons who, once harboring this organism in the nasopharynx, carry it permanently and thus perpetuate the disease. It would seem that the meningococcus can readily secure a foothold on the mucous membranes of the majority of persons, but with only a relatively small proportion of these persons can it invade the tissues and exercise its pathogenic effects.

The disease is undoubtedly transmitted directly from person to person, for the meningococcus is of such low vitality that it succumbs quickly to drying, sunlight, and other injurious influences. As persons suffering from the disease are, because of its severity, decidedly limited in their sphere of influence, and as only a very small proportion of those who receive the organism are susceptible to it, the perpetuation and spread of meningitis must depend on the healthy carriers, who pass the meningococcus on from one to another until a susceptible individual is infected and develops meningitis.

Although the meningococcus undoubtedly gains access to the system by way of the respiratory passages, yet Elser and Huntoon do not look with favor on the prevalent opinion that the meninges are reached by direct extension through the base of the skull. They consider that the evidence is more directly in favor of assuming that the meningococci first invade the blood stream, and then localize in the meninges because they have a specific affinity or adaptation for this particular soil. This specific affinity for meningeal tissue, however, would seem to be limited to human tissues, for all attempts to produce meningitis in animals by inoculation of the meningococcus into parts more or less removed from the central nervous system were without results.

As more and more experience with the bacteriology of meningitis is accumulated, the evidence points with increasing weight to the conclusion that a primary meningitis is almost always a meningococcus meningitis. Up to the time of Jaeger's study of epidemic meningitis in 1895, the pneumococcus or some related organism had been generally believed to be the chief cause of primary meningitis, although the meningococcus was described by Weichselbaum in 1887. Subsequent observations, however, have relegated the pneumococcus to a subordinate position until it now seems that it very rarely selects the meninges as a primary point of attack, however often it may invade them after having secured a foothold in some other tissue. As to epidemics of meningitis the pneumococcus may be left entirely out of consideration, there being but one epidemic yet studied bacteriologically which was certainly not due to the meningococcus, and in this the organism responsible seems to have been the *Streptococcus mucosus* or a close relative. The positive diagnosis of primary meningococcus meningitis rests on the demonstration of the specific organism in the cerebrospinal fluid, which seems not to be a difficult matter if proper precautions are taken. Cultivation of the meningococcus is not particularly easy, especially if the cultures can not be placed immediately under suitable conditions for growth, on account of the low vitality of this coccus.

Fortunately, however, it is not necessary to secure pure cultures of meningococci to establish a diagnosis, for, according to the large experience of Elser and Huntoon, the presence in freshly drawn cerebrospinal fluid of Gram-negative cocci is, for all practical purposes, sufficient proof of the presence of meningococci, and if the cocci are intracellular there is no question of their identity. Other Gram-negative cocci do not seem to occur in the spinal fluid, although they may occasionally appear in cultures as contaminations. The gonococcus can not be readily distinguished from the meningococcus, but there is no evidence that it is ever a cause of meningitis, and hence it is not a source of confusion. A negative finding is not conclusive, however, especially in early cases, for frequently the meningococcus can not then be demonstrated unless several specimens of meningeal fluid are obtained at intervals and carefully examined.

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[1] Jour. Med. Research, 1909, xx, 377-536.

A GRAND OLD MAN OF SCIENCE

The life-work of Francis Galton should especially interest physicians because his early education was directed toward medicine. His parents wished him to follow in the footsteps of his uncle, Dr. Robert Darwin, the son of Erasmus and the father of Charles, the formulator of the modern doctrine of evolution. And, indeed, at 16 the oculist Bowman took him in hand. Unfortunately for our profession, however, his father bequeathing him an ample fortune, young Galton abandoned the plan of practicing medicine, "though most grateful for the enlarged insight into nature" that he had acquired during his brief medical experience. He then entered on a career in science most multifarious and conspicuous. Throughout his long life he has been a tireless classifier, a founder of laboratories, a framer of subtle systems of classification and of "statistical units"; he has been concerned in meteorology, geography, exploration, pedagogics, mathematical inventions, anthropology, "finger-prints," psychology, heredity. He is the author of one hundred and eighty-three books and memoirs, and now, at 86, he gives us his autobiography.[1] Such is an incomplete enumeration of Galton's activities; who among us would not find any one of these subjects sufficient occupation for a lifetime? In the broad field of his researches we of the twentieth century can not hope to emulate him; for he represents the versatile activities of the nineteenth century giants. To-day the cosmic realm of science has become too vast for one finite mind to grasp; whether we will or no, we have to specialize.

We here emphasize, as of interest especially to our colleagues who have recently taken their degrees, some traits in the character of this remarkable man. His mental development was influenced by the fortunate circumstances in which he has been placed throughout his life, but especially in his youth. In laboratory work, in scientific research, in social intercourse, he has always enjoyed companionship with men of ability, with the best minds of his time. In Cambridge and afterward he knew Maine, Kay, Hallam, Tom Taylor, the Darwins, Spencer, Huxley, Faraday, Tyndall, Gladstone, Burton, Pollock, Tom Hughes, and scores of others of most beneficent intellectual influence. His associations were the best, and he derived enormous profit from them, and in turn he has bestowed benefits tenfold. Galton has ever paid tribute to the study of medicine as being a most valuable foundation for the well-rounded life; and so it is, in our day at least, even for one who does not contemplate practice. Medical science now lays all knowledge under tribute toward the end of the relief of suffering. It should, therefore, give a solid and comprehensive understanding of the facts of existence and should develop profound humane sympathies.

Another consideration noteworthy for physicians is the mathematical trend of Galton's mind; he has been able, by imparting his valuable ideas, to inspire skilled mathematicians to most fruitful work. He founded a whole school of biometric inquirers, chief among whom is Prof. Karl Pearson; these men, devoting themselves to the quantitative and exact treatment of the problems of heredity, are now developing the science of "eugenics." Here Galton is in agreement with the great Brehmer, who declared that "only the physician who has studied nature and has trained his mind to mathematical science knows how to cure men."

Again, Galton is intensely practical. Every idea in his fertile mind seeks some useful outlet. He has invented a dozen instruments or methods which are now generally employed. (Not one of these, by the way, has been patented.) When, for example, he took up the study of finger-prints he thought that they might prove to be of high anthropologic significance, but he was very soon applying them as a means—the best now in existence—of identifying criminals.

This venerable man maintains unimpaired the true scientist's ravenous and omnivorous curiosity; facts he wants, facts on which to base hypotheses, theories, doctrines, systems. How inspiring is Galton's prodigious energy! Especially is this a cause of wonder, since his means have ever precluded the absolute necessity of hard work. Herein he exemplifies one of the many definitions of genius (and for the physician the best) —that it is an infinite capacity for taking pains. With equal intentness he prepares a memoir on "cutting a round cake on scientific principles;" or he arranges a plan for calling into existence "races of highly gifted artists, saints, mathematicians, administrators, mechanicians, etc." No detail ever escapes him; none is too insignificant to merit his attention. To him we may well apply the motto which still decorates the wall of the little room in Zaardam in which Peter the Great lived and broke his bread while learning how to build ships: "Den grooten man is niets te klein," which, being translated, reads: "For the great man there is nothing too small."

CHANGES IN STREET NUMBERS IN CHICAGO

Commencing September 1, all mail for the American Medical Association should be addressed to 535 Dearborn Avenue. This is in conformity to a new system of street numbering adopted by the city of Chicago. The use of the new numbers is compulsory, and physicians throughout the United States who have occasion to write to Chicago physicians are hereby notified so that they may secure the new addresses. Until the new numbers are ascertained, however, it will be well to prefix the words, "Old No."

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[1] Galton, F.: Memories of My Life. New York: E. P. Dutton & Co.

All Chicago physicians are asked to send us their new addresses at once in order that THE JOURNAL may be correctly delivered and also that the new addresses may be used in the American Medical Directory. For convenience a blank is given on advertising page 40 of this issue. It will be a favor if Chicago readers will fill this out and send it in immediately. If we could do so, we would save our Chicago friends this trouble and would secure the new addresses from the city authorities, but the latter state that they are entirely unable to handle such an enormous task as would be necessitated if they tried to do this for all the Chicago firms who might desire it.

It is an opportune time for a caution that we have frequently had in mind, namely, that the American Medical Association's building is on Dearborn *Avenue*. Not infrequently a visitor to the city seeks us on Dearborn *Street*. The Association's building at 535 Dearborn Avenue is on the North Side, four blocks north of the river; the building is open for inspection every day, except Saturday, from 8 to 5, and on Saturday from 8 to 1. Members and others are made cordially welcome and are invited to inspect the establishment.

CAN A TUBE BE PASSED INTO THE COLON?

A valuable contribution to the question of the practicability of the high enema will be found in the present issue in the paper of Dr. Soper. It seems to be the belief of the majority of physicians in this country that the soft rubber tube can be passed beyond the sigmoid flexure, though this has been disputed by high authorities abroad. Dr. Soper's experiments and the skiagrams show that in many cases, perhaps in nearly all, the tube does not pass beyond the dome of the rectum and that it is only in exceptional conditions of dilatation and hypertrophy of the colon that it can be successfully introduced beyond the sigmoid flexure. If it could go further, there is still difficulty to be overcome before the injection could be carried anywhere near the cecum, as some have claimed. The splenic flexure especially would seem to be a difficult place to pass. It is often a very acute turn and has been credited with causing decided intestinal obstruction under certain conditions. The need of introducing the injection tube beyond the rectum is probably in most cases an imaginary one. Soper himself says that he has frequently demonstrated the possibility of flushing the entire colon by using a large caliber (one-half inch) short tube. It is certainly much easier to depend on an enema finding its own way beyond the flexures than to endeavor to carry it beyond them. The fluid will probably, in almost every instance, find its own way through the large intestine if sufficient pressure is employed and we thus avoid the danger of causing irritation and premature expulsion of the liquid. Of course, with a slightly bent sigmoid or with its total absence, the higher injection is possible, but such conditions are exceptional and not to be reckoned on. A tube of sufficient rigidity to force its way would hardly be advisable for general use.

THE SEPTUAGENARIAN PEDESTRIAN

Edward Payson Weston's performance of walking 3,975 miles in 105 days is a sufficiently noteworthy fact to deserve mention in a medical journal, even though he did not fully carry out his program of completing his walk in the time specified. It should be recollected that he comes before the public in this spectacular way after about a quarter of a century of comparative obscurity in which there are no records of any such unusual performances. He had been simply taking care of himself in the interval, and now comes out to show what a man can do after passing the psalmist's limit of human life. Probably many other men with like training and temperate habits could somewhat approximate his record.

Medical News

IDAHO

Personal.—Dr. William A. Wright, Pocatello, has been appointed surgeon general of the Idaho National Guard with the rank of colonel.——J. H. Wallace, clerk of the last House of Representatives, has been appointed pure food commissioner by the State Board of Health.

Epidemic Diseases.—The epidemic of scarlet fever and diphtheria of Wallace is abating. On July 5, no new cases had been reported for ten days.——Scarlet fever is reported to be epidemic at Kellogg, and diphtheria at Bonner's Ferry, where Dr. E. Esher Fry is said to be ill with the disease.

New State Officers.—The Idaho State Medical Association, at its seventeenth annual meeting, held in Seattle, Wash., July 20-22, elected the following officers: President, Dr. James L. Stewart, Boise; vice-president, Dr. George H. Coulthard, Idaho Falls; and secretary-treasurer, Dr. Edward E. Maxey, Boise.

ILLINOIS

Pleads Guilty.—Dr. Edwin A. Weimer, Pekin, charged with sending an improper letter through the United States mails, who pleaded guilty, is said to have been fined $100 and costs in the United States District Court, July 21.

Found Not Guilty.—Dr. Charles F. Barstow, Freeport, who has been on trial charged with the murder of a young woman of Council Hill by the performance of an illegal operation, is said to have been found not guilty on the first ballot of the jury, July 6.

Medical Staff Appointed.—At a meeting of the Galesburg Hospital board July 9, the following medical staff was appointed: Drs. James F. Percy, William O'R. Bradley, William H. Maley, Ralph C. Matheny, Edwin N. Nash, Delia M. Rice, Carl G. Johnson, George S. Bower, John H. Bryant and Clarence B. Ripley.

The Afflicted.—Dr. J. Bradley Crandall, Sterling, is reported to be steadily improving in health in Montpelier, Vt.——Dr. Nathaniel S. Parsons, Kewanee, who has been ill with cerebral hemorrhage, is reported to be convalescent.——Dr. Lewis W. Kreiger, Peoria, who has been ill with septicemia, is reported convalescent.——Dr. Alexander C. Smith, Sterling, is reported to be convalescent.——Dr. William A. Hinckle, Peoria, was painfully injured in a street car accident, July 14.

Personal.—Dr. James L. Greene, superintendent of the Kankakee Hospital for the Insane, has been appointed the alienist member of the board of administration for the state institutions.——Dr. James A. Nowlen has succeeded Dr. Frank Fitzgerald, resigned, as local surgeon of the Chicago and Northwestern Railway Company at Morrison.——Dr. Harry C. Blankmeyer has been appointed pathologist and Dr. Morris Altman, obstetrician on the staff of the Springfield Hospital.——Dr. W. E. Shallenberger, Canton, has been appointed local surgeon for the Chicago, Burlington and Quincy and the

Toledo, Peoria and Western railroads.——Dr. J. Rex Sholl has been appointed health commissioner of Peoria, vice Dr. Albert Weil, resigned.——Dr. Stephen C. Glidden, Danville, chief surgeon of the Illinois Traction System Hospital Association, has resigned.——Dr. R. T. Hinton has succeeded Elmer L. Crouch, resigned, on the staff of the Jacksonville Hospital for the Insane.——Dr. Penn W. Ransom, Rockford, who was sued by the *Journal of Nervous and Mental Diseases* to recover $125 alleged to be due on an advertising contract, is said to have won his suit, as the testimony showed that he had ordered the advertisement taken out of the journal.

Chicago

Off for Europe.—Dr. and Mrs. Lewis L. McArthur, Dr. and Mrs. Cassius C. Rogers and Drs. Harriet C. B. Alexander, E. Fletcher Ingals and George E. Shambaugh have sailed for Europe.

National Medical Not in Good Standing.—At a meeting of the Illinois State Board of Health, April 14, the National Medical University is said again to have been voted a college not in good standing.

Change Your Address.—Commencing September 1, the number of the American Medical Association Building will be 535 Dearborn avenue. This is in conformity with the new system of street numbers of the city. All Chicago physicians are asked to fill in the blank on advertising page 40 of this issue so that their addresses may appear correctly in the American Medical Directory and so that their copies of THE JOURNAL may reach them promptly.

To Aid Babies.—The health department has appointed the following 10 physicians to cooperate with the United Charities and Infants' Welfare Committee in their endeavor to reduce the infant mortality list of the summer: Drs. Caroline Hedger, Anna Dwyer, Katherine B. Rich, Johanna Tow, T. Grant Allen, Harold Diefendiefer, M. A. Bernstein, Samuel Perlstein, Samuel Kalaginski and Henry Stieble. Five large tents where ailing babies may be cared for have been placed in various parts of the city in crowded districts.

MARYLAND

School of Instructions for Military Surgeons.—At the school of instructions established by the Army for the benefit of members of the medical department of the national guard at Antietam, 82 militia medical officers have been in attendance. The term of instruction began July 16 and will continue until August 11.

New Psychiatric Ward.—Plans have been completed for the new psychiatric ward given to Johns Hopkins Hospital by Mr. Henry Phipps of New York City. The building will be of dark brick and stone and in conformity with the other buildings of the institution. The idea of non-restraint will be carried out as far as possible. Windows will be guarded by flower-boxes and trellises instead of bars, and suitable arrangements for recreation and exercise will be supplied.

Personal.—Dr. J. Mark Baldwin, professor of physiology and psychology in Johns Hopkins University, has resigned.——Dr. Charles W. Mitchell has been elected professor of medicine in the University of Maryland, vice Dr. Samuel C. Chew, resigned, and in addition will continue to lecture on diseases of children; Dr. Arthur M. Shipley will succeed Dr. Mitchell as professor of therapeutics, and will continue to lecture on surgical pathology; Dr. Harry Adler has been appointed clinical professor of medicine and director of the clinical laboratory, and Dr. Irving J. Spear, clinical professor of neurology and psychiatry.——Dr. W. F. Clayton has succeeded Dr. Joseph B. Webster as sanitary officer of the fourteenth district, Baltimore.

MASSACHUSETTS

Illegal Practitioner Fined.—William M. Lindsey, "clairvoyant" and "magnetic healer" of Worcester, charged with the unlawful practice of medicine, is said to have been found guilty and fined $100 July 8. The defendant appealed.

Ophthalmia of the New-Born.—The committee appointed by the Massachusetts Medical Society to consider what measures should be taken by the society to prevent the occurrence and secure the prompt and effective treatment of ophthalmia neonatorum, has issued a pamphlet dealing with the preventive treatment, suggestions to physicians and nurses, and the treatment of the disease, concisely and plainly written and easy to be understood. Two sections of the revised Massachusetts laws bearing on the subject are quoted in the appendix to the leaflet.

Bequests.—By the will of the late Carrie F. Abbott, Cambridge, $5,000 is bequeathed to the Cambridge Hospital.——After the payment of the many legacies, the balance of the property of the late Miss Mariam S. Shattuck, which will amount to at least $10,000, is bequeathed to the Massachusetts General Hospital. The fund is to be known as the Shattuck Memorial fund, in memory of her mother, Clarissa Baxter Shattuck.

Boards of Health Meet.—At a quarterly meeting of the Massachusetts Association of Boards of Health held at Gallup's Island, Boston Harbor, July 22, Dr. Leslie H. Spooner, Boston, read a paper on "Typhoid Fever; Incidence of the Disease as Contracted Within the Massachusetts General Hospital from 1899 to 1908 Inclusive." Dr. Mark W. Richardson, Boston, secretary of the State Board of Health, opened the discussion, making special reference to the use of specific inoculation in the prevention of typhoid fever, in which he advocated the compulsory inoculation against typhoid fever of nurses, hospital attendants, physicians, soldiers and sailors.

MISSOURI

Postgraduate Club.—The physicians of Carthage have organized a postgraduate club and elected the following officers: Vice-president, Dr. Wallace E. Steele; secretary, Dr. Everett E. Powers; and treasurer, Dr. Calvin B. Taylor.

Students' Infirmary.—Parker Memorial Hospital, which was established at the University of Missouri, Columbia, by James L. Parker as a means of clinical instruction for the school of medicine, has been converted into a students' infirmary. Dr. Guy L. Noyes has been continued as superintendent.

Personal.—Dr. Frederick A. Patterson, St. Joseph, has temporarily succeeded Dr. W. F. Kuhn, removed, as superintendent of State Hospital No. 2, St. Joseph.——The following appointments and promotions are announced in the St. Louis University School of Medicine; Dr. Martin F. Engman, professor of dermatology, vice Dr. John H. Duncan, resigned, and Drs. John W. Marchildon, J. J. Honwink and Russell D. Carman, promoted from instructors to assistant professors of bacteriology, dermatology and roentgenology respectively.

St. Louis

School Incorporates.—The St. Louis School of Physicians and Surgeons Real Estate and Holding Company has been incorporated with a capital stock of $50,000 by Dr. Waldo Briggs and others.

University Plans Hospital.—The advisory board of the St. Louis University has had prepared plans for a new modern hospital to cost $500,000. The university will acquire the site and the Sisters of the Incarnate Word will build and maintain the institution.

Personal.—Dr. John C. Murphy, professor of obstetrics in the St. Louis College of Physicians and Surgeons, has resigned.——Dr. M. E. Toland will soon leave for China as a medical missionary.——Drs. William H. Freudenstein, Albert Beisbarth, Joseph H. Humphrey and Jacob J. Singer, assistant physicians at the city hospital, have resigned.——Dr. Frank Boucher, intern in St. Mary's Hospital, is said to be seriously ill with meningitis.

NEW YORK

Increase in Cancer.—The State Department of Health reports that the deaths from cancer in this state show a marked increase. In 1885 the total number of deaths from cancer was 1,887, and last year the total was 6,551, the highest on record. Statistics filed thus far indicate that the fatal cases for 1909 will surpass those of 1908.

New Hospital.—The Little Sisters of the Poor of St. Francis, Brooklyn, are about to erect a brick building for hospital purposes in Woodhaven. The new hospital will be called St. Anthony's. The only return that will be asked from a patient will be that, when convalescent, he will help in the care of those too ill to help themselves.

New York City

Personal.—Drs. Francis T. Kinnicut and Walter B. James returned from Europe July 29.——Drs. Frank H. McLaury and James F. Markoe have gone abroad.

To Succeed Mayer.—Dr. August Hoch, physician to the Bloomingdale Asylum and assistant professor of psychiatry in Cornell Medical College, will succeed Dr. Adolph Mayer as director of the Pathological Institute of the New York State Hospitals for the Insane.

To Teach the Public.—Extensive preparations under the directions of the Board of Health have been made for the purpose of instructing the public as regards pulmonary tuberculosis. Stereopticon exhibitions will be given during August in the public parks and recreation piers in the boroughs of Manhattan and the Bronx.

Faculty Changes.—The following appointments have been made in the medical department of Cornell University: Dr. Frank Sherman Meara, professor of therapeutics and clinical medicine; Dr. Charles N. Bancker Camac, professor of clinical medicine; Dr. William J. Elser, professor of bacteriology; Drs. John A. Hartwell and William B. Coley, professors of clinical surgery; Dr. Silas P. Beebe, assistant professor of experimental therapeutics, and Dr. J. Merlin, assistant professor of physiology.

Health Insurance Plan.—An old line insurance society has perfected plans for the establishment of a policy holders' health bureau. The object is to help members to discover disease in time to check and cure it. Diseases of the heart, brain, kidneys and other degenerations are increasing, and in order to prevent this class of diseases members will receive free medical examinations every two years. The society will issue health bulletins from time to time giving policy holders the benefit of the discoveries of science and the experience and advice of medical authorities.

Conference of Pharmacists.—The Retail Druggists' Protective Association has planned a conference to be held late in August or early in September to push the agitation for an altered system of pharmaceutical supervision. A special attempt will be made to bring the question of the status of the present Board of Pharmacy into the courts for settlement. The association would have the board appointed by the governor and not elected by the incorporated pharmaceutical associations, as at present. It would also restrict the board to the examination and licensing of candidates and would not allow it the police power which it has at present. The association purposes to form a compact organization to oppose the Brown bill and to fight the State Pharmaceutical Association, which has committed itself irrevocably to that measure.

Insurance Company Wants Sanatorium.—The plan of a large life insurance company to build a huge sanatorium for the treatment of tuberculosis among its policy holders has been laid before State Superintendent Hotchkiss. It is said that Mr. Hotchkiss is in favor of the plan but is in doubt as to whether the law will permit it. The law allows an insurance company to buy land for company business, but it is a question whether the proposed plan can be considered as company business. An option has already been secured on a site and the plans for the institution have been made which would accommodate 200 patients. The plan is designed primarily for the 3,000 employés of the home office and the 11,000 agents in the field, but occasional policy holders would be admitted. The entire expense of the undertaking will be borne at first by the company. As a part of the general scheme of education the company will send broadcast from its presses in the near future 3,500,000 copies of a pamphlet entitled "A War Upon Consumption." This pamphlet will be printed in ten languages.

NORTH CAROLINA

Free Dispensary Opened.—The Salvation Army has opened a free dispensary in Greenville, for treatment of diseases of the eye, ear, nose and throat.

In Favor of Defendants.—In the suit for alleged malpractice brought against Drs. Romulus Armfield, Marshville, and H. Moses Brooks, Olive Branch, by Mr. and Mrs. J. B. Kirker of Anson county, the jury returned a verdict in favor of the defendants.

Antituberculosis Association Organized.—The Guilford County Antituberculosis Association was organized at Greensboro, July 22, and the following medical men were elected officers: Secretary, Dr. John R. Williams, and directors, Drs. William P. Beall and John R. Williams, and E. W. Gudger.

Faculty Changes.—The following changes in the faculty of the Medical School of the University of North Carolina, Raleigh, are announced: Dr. John Sasser McKee, demonstrator of obstetrics; James Madison Harper, assistant demonstrator of clinical pathology; Dr. Claude O. Abernethy, professor of diseases of the skin [illegible] system, vice Dr. Andrew W. Goodwin, [illegible] B. Powers has been elected dean of the medical department of Wake Forest University, vice Dr. Watson S. Pankin, who resigned to become secretary of the State Board of Health.

Personal.—Dr. Lawrie J. Arnold, Lillington, has been elected superintendent of health of Harnett county, vice Dr. Joseph W. Halford, Chalybeate.——After serving nearly 17 years as secretary and treasurer of the North Carolina Board of Health and editor of its *Bulletin*, Dr. Richard H. Lewis, Raleigh, has relinquished these duties to Dr. Watson S. Rankin, Wake Forest.——Drs. Edward J. Wood, Wilmington, William L. Dunn, Asheville, and William DeB. MacNider, Raleigh, have been appointed by the Medical Society of the State of North Carolina the committee from the state on the revision of the United States Pharmacopeia.——Dr. John M. Manning has been elected president, and Dr. Thomas A. Mann, health officer and clerk of the Board of Health of Durham.

OREGON

Board of Examiners Elects.—At a business meeting of the State Board of Medical Examiners held in Portland, July 7, the following officers were elected: President, Dr. Edward Bruce McDaniel, Baker City; secretary, Dr. Robert C. Coffey, Portland; and treasurer, Dr. A. P. Watson.

Graduation Exercises.—The forty-third annual commencement exercises of Willamette University Medical Department, Salem, were held June 2, when a class of 8 was graduated. The president of the university conferred the degrees, Judge Webster of Portland delivered the doctorate address, and Dr. John N. Smith, Salem, the charge to the class.

State Association Election.—The following officers were elected by the Oregon State Medical Association at its thirty-fifth annual meeting held in Seattle, Wash., July 20-22: Dr. Edward A. Pierce, Portland, president; Drs. Roy C. McDaniel, Baker City, and George R. Farra, Corvallis, vice-presidents; Dr. William House, Portland, secretary; Dr. Edna D. Timms, Portland, treasurer, and Dr. Charles J. Smith, Pendleton, delegate to the American Medical Association. The association will meet in Pendleton in 1910.

PENNSYLVANIA

Philadelphia

Gone Abroad.—Drs. Norman S. Betts, George E. de Schweinitz, Francis X. Dercum, George W. Norris and Paul J. Sartain have sailed for Europe.

Sanitary Drinking Cups.—The Pennsylvania Railroad has installed at the drinking fountains in Broad Street Station and on some of the trains running between Philadelphia and Buffalo, individual drinking cups for the accommodation of the public. At Broad Street Station the cups are placed in glass tubes attached to the drinking fountains. They are made of paraffin paper and are obtained by dropping a cent in a slot machine of which the glass tube forms a part.

Anti-Expectoration Crusade.—A vigorous crusade against expectoration in public places is to be conducted by the Pennsylvania Society for the Prevention of Tuberculosis. Under the terms of the Sproul bill, which passed the legislature a year ago, expectoration in street cars and all public places is subject to a fine of $1. It is the intention of the society to enforce this law. Constables have been sworn in for the detection and arrest of offenders. The work of the prosecution is in the hands of Edward Abrams. Signs directing the attention of the public to the law are to be placed in all public institutions and conveyances.

SOUTH CAROLINA

Journal Changes Location.—Beginning with its June issue, the *Journal of the South Carolina Medical Association* is issued from Florence. Dr. Frank H. McLeod is editor, and Dr. J. Gregg McMaster, Florence, business manager of the journal.

State Laboratory Opened.—The Laboratory of the State Board of Health, Columbia, was opened for work, July 1. The scope of the institution at present is bacteriologic examinations looking to the prevention of contagious and infectious diseases, and the administration of the Pasteur treatment for rabies. The bacteriologic work includes the examination of water, milk, sputum, the Widal test, cultures for diphtheria, etc. No charges made for examination or treatment. Dr. Francis A. Coward is director in charge of the laboratory.

WASHINGTON

Personal.—Dr. Guy S. Peterkin, Seattle, was thrown from his horse recently and sustained a fracture of the pelvis.——Dr. Matthew B. Grieve, Spokane, has resigned as city health officer.——Dr. N. Fred Essig, Spokane, has been seriously ill with erysipelas.

Hospital Notes.—James J. Hill has given $2,000 to the building fund of the Children's Orthopedic Hospital, Seattle.——Seattle and King counties have agreed to install and maintain a sanatorium for tuberculosis at Riverton. The site contains 7 acres, and the initial expense will be about $5,300.

Resent Report of Exorbitant Charges.—The medical men of Seattle resent the report that they are making exorbitant charges for certificates of good health before marriage certificates can be issued, and state that the fees for medical examinations have ranged from nothing to $2.50, including the certificate and notarial fees.

New Officers of State Association.—At the annual meeting of the Washington State Medical Association, held in Seattle July 20-22, the following officers were elected: President, Dr. William D. Kirkpatrick, Bellingham; vice-presidents, Drs. John M. Semple, Medical Lake, and William M. Beach, Shelton; secretary, Dr. Curtis H. Thomson, Seattle; treasurer, Dr. Leon L. Love, Tacoma, and delegate to the American Medical Association, Dr. James R. Yocum, Tacoma.

WISCONSIN

Sanitarium Burns.—Fox Lake Sanitarium, formerly Downer College, has been destroyed by fire with a loss of $200,000. No casualties resulted. Insurance on the building amounted only to $25,000.

New Tuberculosis Sanatorium.—Dr. Gerhard A. Bading, health commissioner of Milwaukee, has received plans for a tuberculosis sanatorium to be erected in Wauwatosa. The building will be erected on the top of a hill, will be two stories in height, and will have large porches on three sides to enable the patients to get the advantage of the sunshine and air.

Personal.—Dr. Raymond H. Stetson of Beloit College has been appointed professor of psychology at Oberlin (Ohio) College.——Dr. Charles M. Schoen, city bacteriologist of Milwaukee, is ill with diphtheria.——Four new appointments to the state board of examiners have been made by the governor: Dr. Milton A. Barndt, Milwaukee (reappointed); Dr. John M. Beffel, Milwaukee, succeeds Dr. Patrick H. McGovern of the same city; Dr. Charles W. Rodecker, Wonewoc, succeeds Dr. John V. Stevens, Jefferson.

GENERAL NEWS AND COMMENT

Formation of the Public Health Education Committee.—In accordance with the resolution unanimously passed by the House of Delegates of the American Medical Association at Atlantic City, June 10 (minutes in THE JOURNAL, June 19, page 2083, and editorial in THE JOURNAL, July 3, page 34), authorizing the women members of the A. M. A. to elect a committee to commence a campaign of public education in the cause of preventive medicine, the women members were invited to meet July 20, at 6 East Fifty-eighth street, New York City. Representative women from many parts of the United States were present, and more than two hundred letters and telegrams were received from both women and men members of the association, expressing warm sympathy with the movement and a desire to cooperate. Dr. Sarah R. Adamson Dolley, the first American woman to receive a diploma in medicine, was called to the chair, and expressed appreciation of this opportunity to cooperate in a cause destined to have far-reaching results of incalculable benefit. She vacated the chair in behalf of Dr. Rosalie Slaughter Morton, whose opening address included a plan of work afterward incorporated in the form of resolutions. A secretary for each state will subdivide the work of her state according to counties, and will keep in touch with the central committee. The following members were elected to form the central committee:

Honorary Chairman, Sarah R. Adamson Dolley	Rochester, N. Y.
Chairman, Rosalie Slaughter Morton	New York City
Secretary, Evelyn Garrigue	New York City
Treasurer, Emma C. Hackett	New York City
Rose Talbott Bullard	Los Angeles
Laura L. Liebhardt	Denver
Sara Craig Buckley	Chicago
Lillan H. South	Bowling Green, Ky.
Annie Lee Hamilton	Boston
Margaret Halliday	Austin, Texas

The most important points in the plan outlined by Dr. Morton were embodied in resolutions, which may be briefly summarized as follows:

1. To influence the local women's medical associations throughout the country to hold one or more open meetings to which the public shall be invited and at which will be discussed the prevention of diseases and the general hygienic welfare of the people.

2. To collect data for future use, such as copies of the programs at the meetings above mentioned, lists of women's clubs, girls' schools, mothers' clubs, social settlements, etc., lists of lecturers who can be obtained and topics which are recommended, etc.

3. To endeavor to have women's organizations appoint active committees on hygiene to see that club programs include addresses on preventive medicine, etc.

4. Since there is no appropriation for the expenses, to request each woman member of the American Medical Association to pay $2 to her state secretary of the Public Health Education Committee of the American Medical Association, the state or city secretary retaining one-half for state expenses, and sending the other half to the secretary of the national committee, Dr. Emma C. Hackett, 1700 Broadway, New York City.

A full report of moneys received and expended and of all meetings held and all plans for the future is to be made to the House of Delegates of the American Medical Association at the St. Louis session, and an appropriation for the continuance of the work is expected to be made by the Board of Trustees. The committee is perfecting a mailing list of all women members of the Association that it may inform them of the work and secure their cooperation. The next meeting of the committee is to be held in St. Louis the evening before the annual session of the American Medical Association. The chairman, secretary and treasurer were empowered to take in charge and carry on all work which was unfinished at this meeting.

Change of Date.—The date of the annual meeting of the American Electro-Therapeutic Association, in New York City, has been changed from September 14-16 to September 28-30.

Surgeons Receive Charter.—The American Surgical Association was given a charter in the State of Pennsylvania, July 9. The petition for its incorporation was signed by Drs. William W. Keen, J. Ewing Mears, Robert G. Le Conte and Richard H. Harte.

International District Medical Association Formed.—As announced in THE JOURNAL, July 3, the medical associations of British Columbia, Idaho, Oregon and Washington, met in Seattle, July 20-22, and in addition to their annual meetings, combined to form The Pacific Northwest District Medical Association. Each state association will act in turn as host to the district association. The papers presented will appear in *Northwest Medicine*, the official organ. Two associate editors are to be chosen from each component society. The officers elected in the various societies are given in this issue.

District Societies Meet.—The sixth annual meeting of the N. S. Davis District Medical Association was held in Keokuk, Iowa, July 13, and the following officers were elected: President, Dr. James R. Bridges, Kahoka, Mo.; vice-presidents, Drs. William W. Milligan, Burlington, Iowa, and Frank B. Dorsey, Keokuk, Iowa; secretary-treasurer, Dr. Edward N. Hanson, Keokuk; and censors, Drs. Frank M. Fuller, Keokuk, Josiah C. Taylor, Hamilton, Ill., and Hauphrey H. Sherwood, Bowen, Ill.——The annual meeting of the Iowa and Illinois District Medical Society was held in Davenport, July 8. Dr. George M. Middleton, Davenport, was elected president; Dr. Shelley B. Hall, Rock Island, vice-president; Dr. J. H. Kulp, Davenport, secretary, and Dr. Theodore W. Kemmerer, Davenport, treasurer.

CANADA

Provincial Association Formed.—The Alberta Medical Association was organized at Lethbridge, July 23, with the following officers: President, Dr. L. George De Veber, Lethbridge; vice-presidents, Drs. Keillor Sterling and Charles E. Smyth, Medicine Hat, and secretary, Dr. Campbell, Lethbridge.

British Columbians Meet in Washington.—The British Columbia Medical Association held its tenth annual meeting in Seattle, Wash., July 20-22, and elected the following officers: President, Dr. Robert W. Irving, Tranquille; vice-president, Dr. J. S. Burris, Kamloops; secretary, Dr. R. Eden Walker, New Westminster, and treasurer, Dr. James D. Helmcken, Victoria.

French Medical Association.—The members of the Montreal section of the French Medical Association of America met at Laval University, Montreal, July 6. Dr. J. J. Guerin acted as chairman and Dr. Louis Verner as secretary. Dr. Elzear Pelletier was elected president; Drs. Michel D. Brochu, Alfred Simard and C. Dagneault were elected delegates from Quebec, and Drs. J. J. Guerin, Emmanuel P. Benoit, Rheaume, Charles N. Valin, Latreille, F. X. de Martigny, Louis Verner, Henri Hervieux, Amedée Marien, J. A. Le Sage, Eugene Saint-Jacques, Brisset, Bourguoin, Raoul Masson, Benjamin G. Bourgeois, Joseph Asselin, Recarie and Boucher, delegates from Montreal. The next meeting will be held in Sherbrooks in August, 1910.

Ontario Medical Council Meeting.—The Ontario Medical Council at its meeting held during the week ended July 10, decided after discussion to take prompt action in all criminal cases and to have the names of all practitioners found guilty of unprofessional conduct removed promptly from the register. The question of reciprocity with Manitoba and other provinces was discussed at length, and two delegates were appointed to meet the representatives from these provinces at the session of the Canadian Medical Association in Winnipeg, August 23 to 25, where the entire question of Dominion registration will be taken up. Dr. E. A. Patrick Hardy, Toronto, was elected president, and Dr. James L. Bray, Toronto, was re-elected registrar of the council.

FOREIGN

Third International Congress for School Hygiene.—The organizing committee of this congress, which is to meet at Paris, March 29, 1910, has just issued a pamphlet in which fifty pages are devoted to the lists of committees of propaganda in the various countries interested, the rest of the pamphlet containing the statutes, sections, etc. The congress is open to all taking an interest in school hygiene. The proposed American committee is headed by Dr. John H. Musser as president, Dr. A. T. Cabot, vice-president, and Dr. T. A. Storey, 611 W. 137th street, New York City, as secretary and treasurer, with eleven pages of names of the members of the American committee, including noted physicians, teachers, physical instructors, and others.

Roumanian Physicians Can Not Attend International Congress.—The physicians of Roumania have sent out a circular signed by Professor Jonnesco stating that it will be impossible for them to participate in the festivities connected with the approaching International Medical Congress at Budapest as the Hungarian authorities have recently imprisoned a Roumanian woman, the wife of a Hungarian deputy, whose sole crime was that she told the Roumanian children in a certain Roumanian school that it was their right and their duty to cultivate their mother tongue. The circular states that if Hungarian "justice" denies to Roumanians the right to a mother tongue, Roumanian physicians as citizens and patriots are obliged to refrain from participating in the congress on Hungarian soil. The language of the little kingdom is in some respects nearer to Latin than any other of the Romance languages—the very name, Roumania, is from *Romanus*, Roman. About a third of the 9,000,000 people speaking Roumanian are under Austria-Hungarian rule, as the population of Roumania proper is only 6,000,000.

LONDON LETTER

(From Our Regular Correspondent)

London, July 24, 1909.

International Congress on Alcoholism

The twelfth International Congress on Alcoholism has been held in London. It was attended by about 1,400 members which included 400 delegates from abroad. The latter came from all parts of the world. The largest foreign contingent, over 120 strong, came from Germany. Though the tone of the congress was largely that of total abstainers, it was by no means confined to these, as no test of opinion was imposed on the members. The British dominions were largely represented and an official character was given to the congress by the representatives of the various government departments—Home Office, Colonial Office, Local Government Board and Board of Education, and the various representatives of foreign and colonial governments. These included representatives of most of the European countries, the United States, the Australasian commonwealth, the East African Protectorate, the Gold Coast, India, Hong Kong and Jamaica. Lord Weardale, the president, in opening the congress, said that they were assembled to discuss one of the most sacred causes to which humanity could give attention, the great cause of international temperance. Among the many important questions to be dealt with were the influence of alcoholism on children and on the native races. A discussion on temperance teaching in schools was opened by Miss Cora Stoddard of Boston, U. S. A., who insisted that temperance teaching should be commenced early. In the discussion great importance was attributed to this teaching and also to instruction of the school teachers so that they could impart temperance hygiene. Dr. A. Holitscher of Karlsbad read a paper on "Alcohol in Lobar Pneumonia and Enteric Fever." He had collected statistics from 47 hospitals in 18 of which a plan of alterating treatment, proposed by him had been adopted in order to secure the most reliable proof of the effect of alcoholic and non-alcoholic treatment. In 238 cases of pneumonia treated with alcohol the death rate was 24.3 per cent.; in 248 cases treated without alcohol the death rate was 21.3 per cent. Of 47 cases complicated with delirium tremens alcohol was prescribed in 21, of which 15 were fatal, while in 26 treated without alcohol only 9 were fatal. This showed that there was no foundation for the prevalent idea that alcohol was necessary in inebriate cases. No one would wish to make alcohol responsible for the small difference between the percentages of 24.3 and 21.3, but it showed the failure of alcohol as a curative agent. Of 161 typhoid patients treated in 8 institutions 80 were treated with alcohol, of whom 15 died and 81 were treated without alcohol, of whom 12 died. Professor Laitinen, director of the hygienic institution in the University of Helsingfors, delivered the Norman Kerr Memorial Lecture on "The Influence of Alcohol on Immunity." It was, he said, well-established that alcohol weakened the normal resisting power of the body against the germs of disease. He had made experiments on the blood of 223 persons, abstainers and non-abstainers, whose conditions of life and in other respects were similar. He concluded from his experiments that alcohol in comparatively small doses had a prejudicial effect on the protective mechanism of the body. A great sensation was produced by the paper read by Dr. Doczi, official reporter to the alcohol commission in Budapest. He declared that total abstinence was almost unknown in that city among children and that they indulged freely on the occasion of festivities, such as holidays, baptisms and weddings and frequently arrived at school in an intoxicated condition.

PARIS LETTER

(From Our Regular Correspondent)

Paris, July 22, 1909.

The Concours d'Agrégation in Medicine

A few months ago, in consequence of certain occurrences at the *concours d'agrégation* at the College of Medicine last December (The Journal, Jan. 16, 1909, lii, 223), the representatives of the organized medical profession requested the government to appoint a commission to study the various modes of recruiting the auxiliary professors of the schools of medicine; and another session of the commission on the *agrégation* and the privat-docentship has just been requested on behalf of the various medical societies.

Moreover, an order temporarily modifying certain provisions of the statute regulating the *concours d'agrégation* has just been submitted to the Superior Council of Public Instruction pending the results of a new investigation, to be as extensive and exhaustive as possible. The first important reform granted by the temporary order is that of the juries. The members of the juries will not be, as hitherto, chosen by the ministry. They will be selected by lot, from among the professors of the colleges of medicine and of the mixed colleges of medicine and pharmacy. Another reform no less important consists in the increase in the number of sections. The *agrégation* of medicine hitherto has consisted of only four sections: anatomy and physiology; physics and natural science; medicine and legal medicine; surgery and obstetrics. The number of these sections will be increased to fifteen, so as to permit the candidates to specialize more freely and to do more scientific work.

Monument to Professor Brouardel

The dedication of the monument in the court of honor of the College of Medicine of Paris to Professor Brouardel, the lamented dean of the college, took place on July 20. The monument, by the sculptor Denys Puech, consists of a stela on which is the marble bust of Brouardel, wearing the insignia of his office. At the foot are two allegorical figures representing Hygiene and Legal Medicine. The funds were raised by public subscription under the auspices of M. Emile Loubet; the Anti-Tuberculosis Association of Berlin in particular subscribed 1,000 marks ($240). A large crowd, among which were Professor Brouardel's widow and son, as well as a great number of distinguished scientific and medical men, were present at the ceremony.

Medical Charlatanism and Illegal Practice of Medicine

A former zouave named Jacob was recently prosecuted for illegal practice in medicine, and was acquitted. Clothed in a white robe, Jacob was accustomed to present himself to those who came to see him and to gaze at them fixedly while invoking the spirits. He asked no question, prescribed no rule, and ordered no remedy. He passed among the benches on which the spectators were seated, touched them lightly with the hand, received from them their voluntary offerings and terminated the session by counseling them in a general way to drink no wine, no alcohol, to eat only vegetables, and to use no medicine. The court decided that in giving uniform counsels without any regard to the specific diseases of his auditors, Jacob did not treat maladies within the meaning of the law.

Another case of illegal practice of medicine now arousing public opinion in Paris, is that of a certain Vallanet, who called himself a physician and practiced medicine for more than ten years in Paris, until accused of fraud. In the course of the prosecution it was established that the pretended physician had no diploma and had studied medicine only a year.

According to the law of 1892, doctors of medicine, surgeon-dentists and midwives must, in the month following their establishment in the locality, have their diplomas officially registered in their respective wards (*arrondissement*). The lists of practitioners so recorded, according to law, are to be posted during the month of January in each commune so that it is easy to ascertain if a given person is practicing medicine legally. Unfortunately, in Paris, the physicians, dentists and midwives being extremely numerous, the notices are not posted up. The prefecture of the police merely publishes, at the beginning of each year, a pamphlet, which is placed in all the mayors' offices in which are the names of the physicians who have registered their diplomas and who are, consequently complying with the law.

To avoid a repetition of such an occurrence as this scandalous Vallanet affair, a modification of the law of 1892 on the practice of medicine has been proposed in the senate to the following effect: Doctors of medicine, surgeon-dentists and midwives are to be obliged before beginning the practice of their profession, to have their certificates officially registered in their respective wards, and to have their diplomas examined at the mayors' offices of the places at which they respectively reside.

Market Milk in Paris

In the session of the Academy of Medicine of July 13, M. Martel, head of the Sanitary Veterinary Service of the Department of the Seine, made an interesting report on the conditions under which milk for children is produced. Milk really fit for children's use is almost impossible to find in Paris. There are two serious defects almost universally found in the dairies, namely, the lack of desirable cleanliness and defective feeding of the cows. Out of 911 dairies, keeping 13,565 cows, which furnish milk in Paris and in the commune of the Department of the Seine, 518 dairies, or 56.85 per cent. feed distillery refuse because of its cheapness. M. Martel recently suggested at the dairy congress held at Budapest to forbid the application of the terms "pure milk," "hygienic milk," "milk for children" and other similar terms, to milk from animals fed on distillery waste.

Death of Professor Bondet

Dr. Bondet, former professor of clinical medicine at the College of Lyons, national associate of the Academy of Medicine of Paris, has just died.

Fiftieth Anniversary of the Society of Anthropology

The Society of Anthropology has just celebrated in the great amphitheater of the College of Medicine, the fiftieth anniversary of its foundation. M. Bayet, director of higher education at the Ministry of Public Instruction, presided and a great number of delegates from France and foreign societies were present.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, July 21, 1909.

The Meningitis Epidemic in Austria

The recent outbreak of epidemic cerebrospinal meningitis in Europe is merely a belated sequel of the epidemic which since 1906 has been observed in Central Europe. According to the report of the board of health, in 1906, there were reported in Austria, among 27,000,000 inhabitants, 1,506 cases of this disease, all in the northeast; 853 persons died of it; in 1907 there were 813 cases, with 461 deaths, and next year only 504 cases, with 263 fatalities; altogether, 2,823 cases, with 1,577 deaths (56 per cent.). It is remarkable that while the board of health was successful in almost [illegible] break, the rate of mortality remained [illegible] All prophylactic measures adopted in other countries, besides the use of pyocyanase, were employed here. For about three months the board of health has recommended mainly intraspinal injections of the meningococcus serum. Since its use the mortality has been reduced to 30 per cent. Special care has been taken to discover and isolate the apparently healthy "germ-carriers," the actual propagators of the disease. The teachers of public schools have been especially warned of the nature of the disease and the prophylactic measures required. As the Weichselbaum diplococcus is not capable of living a long time outside of the human body, the conclusions of the report with regard to disinfection are that disinfective measures should be concentrated on the personal linen and bedclothes of the patient, the rooms and furniture being incapable of transmitting the disease.

Insuring Pure Food for the People

The adulteration of bread, of sausages and flour has been nearly put down in Vienna by the strict supervision and heavy penalties imposed lately for each offense. In order to insure the sale of pure food, a special class for the inspectors of markets and shops and their assistants has been opened in the imperial laboratory in this city. The class will last two months, will be repeated in the winter, and will comprise theoretical and practical instruction; it will be open also to medical men. Milk, with its natural and artificial changes, adulteration and conservation, is one of the most important subjects. Natural butter and its substitutes margarin, cocoanut fat, lard and cheese will be obtained from the cattle market and examined under the supervision of the professor. The other articles coming within this class are eggs, preserved and canned vegetables, meat and fruit, wine, beer and all spirits. These articles, obtained in the open market, will be compared with standard articles of the same kind, prepared in the imperial laboratory itself, where abundant facilities for all products are present, including a farm, a vineyard and a brewery on a very small scale. The results thus obtained, together with the name of the selling firm, will be published, if, on two occasions after warning, any adulteration be found still present.

Pharmacology

Oxyburserazin

Oxyburserazin is the name given by its discoverer, W. v. Bolton (*Ztschr. f. Elektrochemie*, xiv, p. 211) to a substance to which remarkable properties are attributed. While the observations have been made by a reputable—though non-medical—scientific worker, it will be interesting to learn whether the properties assigned to this substance are confirmed by others. There is room for the suspicion, at least, that the foundations are being laid, unconsciously it may be, for the development of a nostrum. The danger of preparing the alleged substance will necessarily confine its manufacture to a few, while the assumed pharmacologic virtues open a field for therapeutic claims that can be bounded only by the imagination of the promoter and the credulity of the physician.

Burserazin is said to be that part of the resin of myrrh in which its antiseptic virtues reside and it constitutes from 1.5 to 2 per cent. of the resin. When burserazin is oxidized with hydrogen peroxid, oxyburserazin, a volatile body of a peculiar odor and a pure white color becoming yellow in a few weeks, is said to be produced which is claimed to possess the special properties of the original substance in an increased degree. According to v. Bolton, much care must be taken in preparing oxyburserazin for fear of explosion. Both substances are said to be radioactive, emitting β and γ rays, which have not the power of penetrating metallic foil. After nine months oxyburserazin is converted into a different substance which is not radioactive. It is claimed that if a watery solution of oxyburserazin is mixed with diluted fresh hog's blood and the mixture warmed to body temperature, brown flocculi separate from the blood. These when collected, washed and dried in the air are said to form an elastic transparent membrane soluble in water, which is probably a peculiar form of coagulated albumin. If a piece of this membrane is placed over a small skin wound it is said to combine with the skin forming a protective covering which will not wash off. Oxyburserazin mixed with blood in the absence of air forms no membrane, and it is claimed to be non-toxic when injected subcutaneously.

It is suggested that it may be useful in case of internal wounded surfaces, such as tuberculous lesions, as the blood charged with this substance, by continually bathing a surface exposed to the air would form a protective coating of value in the healing of such wounds. Herpetic eruptions, it is claimed, have been benefited and completely removed by washing with a solution of oxyburserazin. It is suggested that the medicinal properties of oxyburserazin may depend on its radioactive properties.

At the risk of appearing ultra-conservative, the medical profession can afford to wait for confirmation by reliable authority before committing itself too enthusiastically to the idea of applying an automatic plaster to internal wounds by way of the blood.

Correspondence

A Postmortem After a Malpractice Suit

To the Editor:—In the proceedings of the American Academy of Medicine, as published in The Journal, July 17, Dr. James A. Spalding, of Portland, Me., reported the case of a malpractice suit in which subsequently a postmortem examination was made, and he asks for information if other such postmortems have been held.

Some thirty years ago a suit for malpractice was brought in Belmont county, O., the charge being that the attending physician had failed to recognize and reduce a dislocation of the hip. The plaintiff, some months after the accident, came to Columbus and was examined by two of the most prominent surgeons of this city who made a diagnosis of dislocation and attempted to reduce it by pulleys (this being the only time I have ever seen pulleys used). I was the "cub" and gave the anesthetic, but made no examination of the case. Their efforts being futile, they reached the conclusion that the acetabulum had become filled in the interval and that reduction was impossible. If I remember correctly a verdict of $800 was rendered against the attending physician.

Some years later a postmortem examination showed that there had been a fracture of the neck of the femur, and the head of the femur had never left the acetabulum. The unfortunate attending physician had contended all the while that it was a case of fracture, but the verdict had gone against him, and his only satisfaction was in local vindication. The Columbus surgeons had passed to their reward before the postmortem.

J. F. Baldwin, M.D., Columbus, O.

A Boosting Club

To the Editor:—Why not a "Booster Club" or "Praise Your Brother Club" in the American Medical Association, with no dues or other requirements except that each member pledge himself never to speak unkindly or in criticism of a brother physician to the laity except that physician be also present. Let us renew our vows and wear buttons to show that we mean to keep them.

If such a condition could be brought about we would be held in much greater esteem by our patients and neighbors. Whenever a physician is condemned, maligned or criticized by another physician, the ill-will engendered in the minds of the laity is not against the one physician but the class—individuals are forgotten and the profession is remembered as a whole. If I tell everyone I meet that Doctor Pill is a rank physician; knows nothing of medicine and will stoop to any mean practice, the laity soon forget that Doctor Pill is a "poor doctor" and retain the impression that we are all "poor doctors" ready to stoop to anything.

Let's stop it; raise the standard. Can we get together at St. Louis and organize a club?

Yours for "no knocking."

W. T. Wootton, M.D., Hot Springs, Ark.

An Island Without Flies

To the Editor:—The handbook prepared for the U. S. Army of Invasion of Porto Rico, stated that the house fly did not exist on the island, but that a fly called *vomitorum* (*Mus vomitorum*) did exist there, and if one fly was accidentally swallowed, it caused immediate vomiting. After two years spent on the island, the writer states this experience: The house fly accompanied the American Army to the island, and was as numerous in the camps there as in the camps in the United States in the summer of 1898. When the Army left the island the flies disappeared. There were almost no flies to be seen on the island in the summers of 1899 and 1900. I never saw the *Mus vomitorum*, nor heard any one on the island mention them. It is also of interest that the flies which so much annoy horses and cattle by biting them, do not exist in Porto Rico. I never saw one on either horse or cow, but whether they were present with the American horses I do not know.

Now, why do flies not exist in Porto Rico? There is some condition there not conducive to their health. It is true that other insects are scarce on the island. This seems true of all except certain species commonly domesticated and living in homes of people. Bird life and wild mammals are very rare. Reptiles do not exist on the island. Would it not be well for the Rockefeller Institute or some similar organization to investigate the cause of this sparseness of insect life in Porto Rico?

George G. Groff,
Late Major and Brigade Surgeon, U. S. V.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BOOKS ON PARASITOLOGY AND BACTERIOLOGY

To the Editor:—Kindly give a list of authoritative works in English on general parasitology and bacteriology (both pathogenic and non-pathogenic bacteria) and give the names of publishers. Also tell me what are the best works on immunity and serum therapy.

R. F. L., North Carolina.

Answer.—There is no work in English covering the subjects mentioned that can be considered complete. Probably the work in English which considers both pathogenic and non-pathogenic forms from the broadest standpoint is the "Text-book of General Bacteriology," by E. O. Jordan (W. B. Saunders Co.). Other reliable books which treat of the pathogenic forms are Muir and Ritchie, "Manual of Bacteriology." (Macmillan Co.), and Park's "Pathogenic Bacteria and Protozoa," (Lea & Febiger).

Several books in English on immunity and serum therapy give the general principles well. Among them are "Infection, Immunity and Serum Therapy," by H. T. Ricketts, (American Medical Association Press); also Ehrlich's collected studies in "Immunity," translated by Bolduan, (John Wiley & Sons), and Binnie's translation of Metchnikoff's "Immunity in Infective Diseases," (Macmillan Co.).

UNTOWARD EFFECTS OF CHRYSAROBIN

To the Editor:—Please inform me if the local use of chrysarobin is usually followed by coloring of the skin in other parts of the body. I recently prescribed an ointment containing chrysarobin and salicylic acid for psoriasis of the arms and legs of a robust adult; the ointment to be applied with a brush. After three applications the patient returned showing a deep discoloration of the finger nails and the skin about the eyes. The coloring of the nails seemed to be throughout the nail substance, as scraping them deeply would not remove it, and the patient is sure that at no time did he get any of the ointment on the nails. I have used chrysarobin very frequently, but have never seen its use followed by such pigmentation, nor do I find any mention made of the discoloration occurring at so great distances from its application.

W. C. G., Michigan.

Answer.—The absorption of chrysarobin from the skin has been rarely observed, but there are a number of observations which show that it may be absorbed and produce constitutional effects sometimes of a severe nature. The effects are of three kinds: (1) Chrysarobin dermatitis, in which the skin is colored brown, and chrysarobin may be found in the pigment; (2) chrysarobin keratitis, in which the deposit begins in the deeper layers of the cornea and produces an inflammation in the cornea and sclera which may extend to the conjunctiva; (3) chrysarobin nephritis, caused by the excretion of the drug through the kidney. Chrysarobin is changed to a large extent on absorption to chrysophanic acid, which does not appear to be irritating. Chrysarobin itself may, however, be found in the urine along with albumin and casts.

M. Winkler, *Cor.-Bl. f. schweiz. Aerzte,* 1907, xxxvii, p. 561-567) investigated the absorption and excretion of chrysarobin when applied to the skin as is usual in psoriasis and came to the conclusion that as it is ordinarily used the danger from absorption of chrysarobin is very slight. He did, however, find one case of chrysarobin conjunctivitis in which there was a slight excretion of chrysophanic acid in the urine with slight albuminuria. Linde (*Deutsch. med. Wchnschr.,* 1898) reports a case of severe nephritis accompanied by keratitis following the application of chrysarobin. R. Volk (*Wien. klin. Wchnschr.,* 1906, xix, p. 1194) reports a case of chrysarobin dermatitis and severe nephritis following the application of chrysarobin for an undetermined skin disease. Chrysophanic acid was found in the urine. Krause (*Ztschr. f. Augenhl.,* 1906, xv, pp. 233-238) reports three cases of corneal affection due to chrysarobin. The affection of the cornea appeared to be primary and due to the absorption of the drug. C. J. Kipp (The Journal A. M. A., May 18, 1907, xlviii, p. 1678) reports a case of kerato-conjunctivitis from application to the nose.

It is advised by many to be cautious about applying chrysarobin to the scalp for fear of producing conjunctivitis. H. C. Baum (The Journal A. M. A., June 23, 1906, xlvi, p. 1811) refers to a case in which blindness resulted from application to the nose. J. C. Fox (The Journal A. M. A., June 23, 1906, xlvi, p. 1911) states that the remedy discolors the nails and hair.

The Public Service

Medical Department of the Army

Memorandum of changes for the week ended July 31, 1909:

McDiarmid, Norman L., 1st lieut., ordered to Jefferson Barracks, Mo., for temporary duty.

Bruns, Earl H., capt., granted sick leave of absence for six months.

Brown, Orville G., capt., ordered to return from Fort Mackenzie, Wyo., to his proper station, Fort Robinson, Nebraska.

Ashburn, Percy M., major, relieved from duty with the commission to Liberia, and ordered to San Francisco for duty at the Army General Hospital.

Huber, Edward G., 1st lieut., granted leave of absence for one month, about Sept. 1.

Reynolds, Frederick P., major, granted leave of absence for ten days.

Davis, William R., capt., relieved from duty at Fort Mason, Cal., and as attending surgeon, San Francisco; will proceed to Fort Porter, N. Y., for duty.

Bingham, Ernest G., capt., when relieved at Fort Porter, N. Y., will proceed to Fort Mason, Cal., for duty as surgeon, and as attending surgeon, San Francisco.

Reed, Howard A., 1st lieut., retired from active service as a captain, to date from June 30, 1909, for physical disability.

Morris, Samuel J., capt., ordered to Fort Jay, N. Y., for temporary duty.

Crosby, William D., lieut.-col., granted leave of absence for one month, seven days.

Owen, Leartus J., capt., ordered to inspect Company A, Hospital Corps, Michigan National Guard, at Ludington, Mich., Aug. 9 to 18; after duty at that camp to return to Camp Perry, Ohio.

Reno, William W., capt., relieved from duty on the transport "Kilpatrick;" will proceed to Fort McKinley, Maine, for duty.

Yost, John D., capt., retired from active service as a major, to date from March 13, 1909, for physical disability.

Ashford, Mahlen, 1st lieut., granted leave of absence for fourteen days.

Miller, Reuben B., capt., granted leave of absence for three months.

Myers, William H., 1st lieut., M.R.C., granted leave of absence for three months, when relieved from duty in the Philippines Division, with permission to return to the United States via Europe.

Clayton, George R., 1st lieut., M.R.C., relieved from further duty in the Philippines Division, will proceed from San Francisco to Fort D. A. Russell, Wyo., for duty.

Bowman, Madison H., 1st lieut., M.R.C., relieved from duty at Fort McDowell, Cal., will proceed to Point Bonita, Cal., for temporary duty, and then to the Presidio of Monterey, Cal., for duty.

Hughes, Leonard S., 1st lieut., M.R.C., relieved from duty at Fort McDowell, Cal., and temporary duty at Point Bonita, Cal.; will proceed to Fort Lawton, Wash., for duty.

Tyler, George T., 1st lieut., M.R.C., honorably discharged from the service, his services being no longer required.

Jackson, T. W., 1st lieut., M.R.C., ordered to Washington Barracks, D. C., for temporary duty.

Hasseltine, H. E., 1st lieut., M.R.C., honorably discharged from the service, his services being no longer required.

Medical Corps of the Navy

Changes for the week ended July 31, 1909:

White, E. C., P. A. surgeon, detached from the Naval Torpedo Station, Newport, R. I., and ordered to the Naval Hospital, Newport, R. I.

Clark, G. F., asst.-surgeon, detached from the Naval Hospital, Newport, R. I., and ordered to duty with the *Solace*.

Dixon, W. S., medical director, retired, detached from the Naval Dispensary, Washington, D. C., and ordered home.

Mullin, J. J. A., Johnson, J. T., acting asst.-surgeons, appointed acting assistant surgeons from July 24.

Bodman, S. S., surgeon, detached from the Naval Rendezvous, Indianapolis, and ordered to the Naval Rendezvous, Boston.

Diehl, O., medical inspector, ordered to duty as fleet surgeon of the third squadron of the Pacific fleet.

Public Health and Marine-Hospital Service

List of changes for the fourteen days ended July 28, 1909:

Glennan, A. H., asst. surgeon-general, granted 28 days' leave of absence from July 20, 1909.

Cofer, L. E., asst. surgeon-general, directed to proceed to Reedy Island Quarantine Station on special temporary duty.

Austin, H. W., surgeon, on being relieved by Surgeon James M. Gassaway, directed to proceed to Stapleton, N. Y., and assume command.

Gassaway, James M., surgeon, on being relieved by Surgeon H. R. Carter, directed to proceed to San Francisco and assume command.

Carter, H. R., surgeon, on being relieved from duty with the Isthmian Canal Commission, about Aug. 1, 1909, directed to proceed to Philadelphia and assume charge.

McClintic, T. B., P. A. surgeon, directed to proceed to Norfolk, Va., on special temporary duty.

Trotter, P. E., P. A. surgeon, granted 15 days' leave of absence from July 21, 1909.

Sweet, Ernest A., P. A. surgeon, granted 7 days' leave of absence from July 15, 1909, under paragraph 191, Service Regulations.

Porter, Joseph Y., quarantine inspector, directed to inspect Florida Quarantine Station from time to time during present season.

Foster, J. P. C., acting asst. surgeon, granted 26 days' leave of absence from July 17, 1909.

O'Reilly, W. J., acting asst. surgeon, granted 10 days' leave of absence from July 27, 1909.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from July 22, 1909, on account of sickness.

Williams, L. L., surgeon, granted 1 month's leave of absence from Aug. 1, 1909.

Wertenbaker, C. P., surgeon, directed to proceed to Cape Charles Quarantine Station on special temporary duty.

Young, G. B., surgeon, directed to proceed to Dubuque, Iowa, and La Crosse, Wis., special temporary duty.

Oakley, J. H., surgeon, directed to proceed to Seattle, Wash., on special temporary duty.

Lavinder, C. H., P. A. surgeon, granted 7 days' leave of absence from July 25, 1909.

Robinson, D. E., P. A. surgeon, granted 1 month's leave of absence from Aug. 8, 1909.

Ramus, Carl, P. A. surgeon, granted 3 days' leave of absence from July 19, 1909, on account of sickness.

Holt, J. M., P. A. surgeon, leave of absence granted July 2, 1909, for 1 month from July 26, 1909, amended to read 3 days from July 26, 1909.

Herring, R. A., asst.-surgeon, on the arrival of Assistant Surgeon Richard H. Lyon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Wood, Charles E., asst.-surgeon, on the arrival of Assistant Surgeon J. R. Ridlon, relieved from duty on the Revenue Cutter *Seneca*, and directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Ridlon, J. R., asst.-surgeon, relieved from duty at New Orleans and directed to report to the commanding officer of the Revenue Cutter *Seneca*

Leake, James P., asst.-surgeon, directed to proceed to Chicago and report to the medical officer in command for duty and assignment to quarters.

Lyon, Richard H., asst.-surgeon, directed to proceed to Reedy Island Quarantine Station and report to the medical officer in command for duty and assignment to quarters.

Kolb, Lawrence, asst.-surgeon, directed to report to the medical officer in command at Baltimore for duty and assignment to quarters.

Blanchard, J. F., acting asst.-surgeon, granted 8 days' leave of absence from July 17, 1909.

Frary, T. C., acting asst.-surgeon, granted 7 days' leave of absence from Aug. 6, 1909.

Reimer, H. B. C., acting asst.-surgeon, granted 7 days' leave of absence from July 20, 1909, under paragraph 210, Service Regulations.

Tappan, J. W., acting asst.-surgeon, granted 30 days' leave of absence from August 2, 1909.

APPOINTMENTS

Dr. Bruno L. Schuster appointed an acting assistant surgeon for duty at Port Huron, Mich.

Dr. Hermon E. Hasseltine commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Dr. James P. Leake commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Dr. Richard H. Lyon commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Dr. Lawrence Kolb commissioned an assistant surgeon in the Public Health and Marine-Hospital Service.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended July 30, 1909.

SMALLPOX—UNITED STATES

Indiana: Muncie, July 3-10, 3 cases.
Minnesota: Duluth, July 9-16, 4 cases.
Missouri: St Louis, July 10-17, 1 case.
Montana: Butte, July 8-15, 4 cases.
Tennessee: Knoxville, July 10-17, 2 cases.
Texas: San Antonio, July 10-17, 1 case.
Wisconsin: Appleton, July 10-17, 4 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, May 28-June 5, 1 case, 1 death.

SMALLPOX—FOREIGN

Algeria: Bona, June 1-30, 7 deaths.
Argentina: Buenos Aires, April 1-30, 7 deaths.
Brazil: Bahia, June 4-11, 6 cases, 2 deaths; Sao Paulo, June 6-13, 3 deaths.
China: Hankow, June 5-26, present; Shanghai, 2 deaths.
France: Marseille, June 1-30, 5 deaths.
India: Bombay, June 15-22, 7 deaths; Calcutta, June 5-12, 18 deaths; Rangoon, 4 deaths.
Java: Batavia, May 29-June 5, 2 cases.
Italy: General, June 27 July 4, 16 cases; Naples, 32 cases, 4 deaths.
Russia: Odessa, June 19-July 3, 5 cases; St. Petersburg, June 12-19, 27 cases, 8 deaths; Warsaw, May 22-29, 2 deaths.
Spain: Barcelona, June 28-July 5, 5 deaths; Madrid, June 1-30, 84 deaths; Valencia, June 19-26, 6 cases.
Turkey: Bagdad, May 8-29, present; Bassorah, June 19-26, present.

YELLOW FEVER

Brazil: Bahia, June 4-11, 5 cases, 3 deaths; Para, June 19-26, 4 cases, 4 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, May 29-June 5, 18 cases, 13 deaths.

CHOLERA—FOREIGN

Germany: Konigsberg, July 21, 1 death.
India: Bombay, June 15-22, 21 deaths; Calcutta, June 5-12, 40 deaths.
Russia: General, July 1-8, 710 cases, 272 deaths; Riga, July 21, 13 deaths; St. Petersburg, 589 cases, 238 deaths.
Straits Settlements: Singapore, May 29-June 5, 3 deaths.

PLAGUE

Brazil: Bahia, June 4-11, 1 case, 1 death.
Chile: Antofagasta, June 14, 4 cases, in lazaretto; Iquique, June 16, 7 cases, in lazaretto.
China: Amoy, June 5-12, 73 deaths; Swatow vicinity, to July 1, 2,400 cases.
Egypt: General, July 1, 14 cases, 8 deaths; Port Said, July 2-7, 3 cases, 1 death.

India: General, June 5-12, 1,045 cases, 907 deaths; Bombay, June 15-22, 26 deaths; Calcutta, June 5-12, 81 deaths; Rangoon, 24 deaths.
Japan: Kobe, June 12-26, 2 cases, 2 deaths; Yokahama, June 10-26, 2 cases; Tokyo, 1 case.
Turkey: Bagdad, May 8-29, 6 cases.
Venezuela: Caracas, to July 11, 17 cases, 6 deaths.
Zanzibar: Zanzibar, July 26, 1 case.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A Movement for State and National Unity

The July number of the *National Civic Federation Review* contains a leading article under the above head which should be read by all interested in uniform legislation for the regulation of public health. The National Civic Federation has issued a call for a national conference to consider the entire subject of uniform legislation by the states, to be held in Washington, Jan. 5-7, 1910. President Taft has accepted the invitation to deliver the opening address. After presenting the opinions of a large number of eminent men, among them Senator Elihu Root, Samuel Gompers, President Amasa M. Eaton, of the Commissioners of Uniform State Laws, President George W. Kirchwey, of the Association of American Law Schools, and others, the *Review* discusses the need of uniform laws and the particular lines in which such laws are desirable, considering in particular the desirability of uniform laws on forestry, water power, irrigation, railroad management, life insurance, administration, regulation of interstate commerce, employers' liability and labor activities. The writer then continues:

The medical as well as the legal world appreciates the importance of uniform state laws for the immediate registration and preservation of vital statistics. The American Medical Association has prepared a draft of a model law to provide for the immediate registration of all births and deaths. This bill is being urged in all of the state legislatures. It was examined and approved by the Division of Vital Statistics of the United States Bureau of the Census, by the Section on Hygiene and Sanitary Science and the House of Delegates of the American Medical Association, the American Public Health Association and the conference of Commissioners on Uniform State Laws. The Census Bureau has issued a pamphlet on the legal importance of the registration of births and deaths. It is published in a bulletin of the department and is also issued by the American Medical Association. During the present year, legislation for this purpose has been enacted in Delaware, Missouri, North Carolina, Arizona and Tennessee.

Dr. Cressy L. Wilbur, chief statistician of the Census Bureau, in a recent letter says: "The interest of labor organizations is especially desirable to secure registration of births, because birth certificates are a necessary part of the enforcement of child labor laws." The Hon. Vespasian Warner, United States commissioner of pensions in 1907, wrote to the Census Bureau urging the importance to the government of the registration of vital statistics. As in the administration of the pension laws, it is necessary to have absolute proof of the date of the birth of minor children entitled to a pension, of the marriage of the widows of soldiers who apply for pension, as well as of the death of the soldier. The Pension Commissioner urged that the proper registration of vital statistics would not only be a saving to the government in time and money, but would tend to insure to the rightful claimant the receiving of the bounty to which he or she is entitled under the law and prevent impostors from obtaining that to which they have no title.

The *Review* also considers the importance of uniform health regulations for the prevention of disease, uniform pure food and drug laws, etc. No reference is made to the desirability of uniform laws for the regulation of the practice of medicine which really lies at the foundation of the proper regulation of health, the importance of this subject evidently not having been brought to the attention of the writer.

Of particular interest are the suggestions regarding the best methods of procedure, corresponding closely to the suggestions made along this line in this department of The Journal as well as in the *Bulletin* for May 15, 1907. Discussing the haphazard manner in which state legislation has been enacted, the writer says: "General impressions instead of exact and systematic statistics will, for a long time to come, be the basis on which the policy of our civil legislation will be built, and there is no promise of any radical advance of jurisprudence in this respect. With regard to revenue and police legislation, however, the outlook is much more hopeful. A considerable amount of information is even now available in the official reports of the authorities charged with the administrations of the various acts which naturally deal to a considerable extent with the administrative and judicial aspects of legislation. With the multiplication of controlling and regulating boards, more and more light will be thrown on the operation of principles of constitutional and administrative law. All this material ought to be collected and digested in the same manner as is now done in judicial decisions and the result should be the construction of a body of principles of legislation to supplement the existing body of principles of law. . . . We look on the collection and classification of this data as merely a common sense business operation. . . . It seems merely common sense that we should get all possible knowledge relating to that statute for the use of our legislators. In this way, legislation cannot help being bettered; in this way, the dearly bought experience of one state is used for the betterment of conditions in another state; in this way, the best there is can be culled out from the statutes throughout the country and used for the benefit of the people."

The importance and value of such a conference as that contemplated by the National Civic Federation can not be overestimated. The Committee on Legislation of the American Medical Association has been invited to attend the conference and to take part in its deliberations. Certainly such an important work should not be undertaken without representatives of the organized medical profession being heard on the most important subject of uniform laws for the regulation of the public health. This movement on the part of the National Civic Federation is exactly similar to the work which has been advocated by the American Medical Association in a limited field. The careful study which is being given to these problems by a large number of competent and unselfish workers gives a gratifying promise of better conditions in the future.

Medical Education and State Boards of Registration

Stolen Diploma

State examining boards are requested to be on the lookout for a diploma said to have been stolen from the office of Dr. James F. York of Kenova, West Virginia. The diploma was issued to Dr. York by the Eclectic Medical Institute of Cincinnati, Ohio, June 4, 1895.

Utah July Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, July 6-7, 1909. The number of subjects examined in was 16; total number of questions asked, 100: percentage required to pass, 75. The total number of candidates examined was 12, all of whom passed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED

College.	Year Grad.
Denver and Gross College of Medicine	(1908)
Northwestern University Medical School	(6, 1909)
University of Michigan	(1909)
St. Louis College of Physicians and Surgeons	(1909)
Medical College of Ohio	(1909)
Jefferson Medical College	(1908) (1909)

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1906)	Wisconsin

Book Notices

A System of Syphilis. In Six Volumes. Vol. II. Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S., with an introduction by Jonathan Hutchinson, F.R.S. Cloth. Pp. 387, with illustrations. Price, $13.50. New York: Oxford University Press, 1908.

We reviewed recently in these pages Volume 1 of this system and praised it highly. Volume II, now under consideration, contains "The Surgery of Syphilis," by D'Arcy Power, of St. Bartholomew's Hospital; "The Treatment of Syphilis," and an article on syphilis in the Uganda Protectorate, both by F. J. Lambkin, of the Army Medical College, and "Syphilis in Obstetrics," by William J. Gow, of St. Mary's Hospital. In this very collection of articles the work shows some lack of the system promised in the name of the series. In the prospectus inserted in the first volume, the authors for Volume II were given as D'Arcy Power and W. J. Gow; in Volume II the article on syphilis in Uganda is inserted as a separate monograph, but is given in the table of contents as a chapter under the treatment of syphilis. Reference is made to these departures from definite system here, because they are evidences of the lack of editorial supervision to which attention must be repeatedly called in reviewing this volume.

Power in "The Surgery of Syphilis" first gives a chapter of thirteen pages to a historical account of syphilis, going over the same ground which Bloch had covered satisfactorily in Volume I. He then takes up in successive chapters the manifestations of syphilis in the various structures where its presence may properly be considered to constitute surgical syphilis: the bones, joints, muscles, tendons and bursæ, teeth, mouth and tongue, rectum, urethra and prostate, testicles, breast (why plural for testicles and singular for breast, we do not know), and the thyroid gland. To these chapters are given 155 pages, and the subjects are well treated. He then gives four chapters—82 pages—to the treatment of syphilis, with nothing in it that is not a part of the treatment of syphilis in general and that is not properly a part of the next monograph by Lambkin. Thus we have in the first 250 pages, 95 precious pages that are a repetition of what is given or is properly to be expected elsewhere. Emphasis is laid on this because it indicates hopeless carelessness in editing. An essential condition of collaboration in a medical publication is careful editorial supervision in order that the same ground shall not be traversed again and again. Unless there be superlative merit in the contributions, this defect will damage a "system" beyond remedy, and these contributions are not superlative.

Lambkin's monograph, while it has the caption "The Treatment of Syphilis," and presumably is to serve as covering the subject for the system, is virtually an article on the treatment of syphilis by means of intramuscular injections of metallic mercury and (occasionally) of calomel. Short shrift is made of everything else; the substance of the contribution is an advocacy of the use of two insoluble preparations of mercury in the treatment of syphilis. These are the "treatment of syphilis." It goes without saying that he describes his treatment in detail, and, in so far, his article is useful, but as a contribution on the treatment of syphilis it is made unsafe by its narrowness. It is unscientific, too, because it accepts personal impressions as facts and is unrestrained in statement: ". . . it (the intramuscular method) is undoubtedly the most popular method in Europe and America" (!!) (p. 281;) ". . . it is certain that by the intramuscular method the amount of mercury introduced can be made mathematically correct. Absorption of mercury in a definite manner is ensured by this method" (p. 282); "with regard to the seventh advantage, i. e., less chance of being followed by stomatitis and salivation than when given otherwise, I came to this conclusion many years ago, and time has only confirmed me in my opinion" (p. 283). (This reminds one of Hashimura Togo's dictum, "I know, because I am aware"). These examples selected from three successive pages could be continued to the limit of our space. All these statements of course are unestablished assumptions. An extreme illustration of the use of assumption as an established fact—when almost all the world thinks differently—is Lambkin's reason for preferring the insoluble injection method, namely, its convenience and the ease with which the patient can be controlled: "This [uncertainty about the patient's taking his medicine], to my mind, is the chief objection to the ingestion method."

The magnificent space of five pages is given to the use of potassium iodid in syphilis. Other iodids beside the iodid of potassium are not referred to; the organic preparations of iodin are not even mentioned to be condemned. Twenty-six lines (separated in two places) are given to the eruptions produced by the ingestion of the iodids; and five pages to the chapter on local treatment! Such chapters under the general subject of treatment in a work that pretends to be an encyclopedia of syphilis, are of course entitled to no serious consideration. They are less by far than standard text-books give to the subjects. Nowhere is there any systematic consideration of the general treatment of syphilis in connection with the specific treatment. Aside from a few brief references under "conclusions," there is nothing to indicate that there is any reason to consider the syphilitic as an individual patient.

Lambkin is singularly careless at time in his use of words. "Iodid of potash" is a favorite term. On page 315 it is said that the patient should be told to drink freely of "potash water"—whatever that is. Our old English friend, "syphilitic psoriasis"—which belongs to the "laudable pus" era of medicine—bobs up occasionally, and on page 319 "a form of psoriasis of ulcerating, and still more rarely of a sloughing, variety sometimes occurs." A more hopeless confusion in the use of the word psoriasis, to say nothing of a "form" of a "variety," could hardly be imagined. On page 315 he speaks of "hereditary . . . neurasthenia," which we suppose is the latinized equivalent of our vernacular expression, "born tired." These things are mentioned only because they indicate an unpardonable carelessness both on the part of the author and of the editor. One serious mistake occurs on page 285; the following prescription is given: "Hydrarg. perchloridi grs. 32. Ammon. chloridi grs. 12. Aquam. (*sic*) oz. 1. Dose, minims 10 for an injection." Ten minims of that solution contains two-thirds of a grain of corrosive sublimate, about four times the maximum hypodermic dose.

Colonel Lambkin is, we doubt not, an able clinician, but his article does not measure up to the standard that is to be expected of him. It does not at all represent the present state of our knowledge of the treatment of syphilis. It is purely a personal article, and utterly fails to emphasize, or even to mention, important facts that must be made a part of any satisfactory consideration of the treatment of syphilis.

The contribution by Lambkin on syphilis in the Uganda Protectorate is a brief and interesting narrative, but furnishes no new or enlightening facts on syphilis to warrant its insertion in an encyclopedia of syphilis. Its place would be properly the *British Medical Journal* or the *Lancet*.

Dr. Gow gives, or has been allotted, eighteen pages for "Syphilis in Obstetrics." In this he briefly considers the effects of syphilis on pregnancy, of pregnancy on syphilis, of syphilis on the embryo, in a few pages gives the morbid anatomy of syphilis of the placenta and fetus, and ends with a page and a half on treatment of syphilis during pregnancy. The article is satisfactory within its limits, but is, of course, merely a sketch. It has not space to consider any topic comprehensively, brings forward nothing original, and is such a contribution as any competent man could write on short notice, or as could be compiled on consultation with a few text-books.

Taken altogether, this volume is a disappointment. Except Lambkin's contributions, which have at least the quality of individuality, the articles are simply hack work, and they have the great defect, in a work that professes to be encyclopedic, of being incomplete. One who would consult any of them, expecting, as he justly should, to find the last word on the subject, would find nothing not in his text-books. One gets the impression that carelessness and a lack of feeling of responsibility in the preparation of this volume have resulted in the waste of a great opportunity.

Writing the Short Story By J. Berg Esenwein, A.M., Lit.D., Editor of Lippincott's Monthly Magazine. Cloth. Pp. 441. Price, $1.25. New York: Hinds, Noble & Eldredge.

This book should be popular among physicians so many of whom devote their leisure hours to story-writing. The book begins with a historical review of the rise of the short story, calling attention to the fact that the story-writer is the lineal descendant of the story-teller, and briefly tracing the evolution of the written story down through the ages. In Part 1 the nature of the modern short story is discussed at length. In Part 2 the structure is considered. Part 3 deals with preparation for authorship. Part 4 discusses the manuscript and its market. Part 5 is composed of seven appendices. As editor of a popular magazine the writer has handled thousands of manuscripts and his advice is correspondingly valuable.

AN INTRODUCTION TO THE SCIENCE OF RADIO-ACTIVITY. By Charles W. Rafferty. Cloth. Pp. 208, with illustrations. Price, $1.25. New York: Longmans, Green & Co., 1909.

This is an elementary treatise on the physics of radioactivity. It begins with an introductory chapter on the discovery and development of our knowledge of radioactivity. The work proper is divided into three parts. Part I presents in several chapters a description of the radioactive elements and of the phenomena of radioactivity; Part II is an exposition of the theories which explain the phenomena of radioactivity; and Part III considers the practical application of radioactive energy in physical experiments. This plan lends itself to a clear and very interesting development of the subject. The work is frankly offered as an elementary treatise, but it will be found by the student to be a full and satisfactory work. It is hard to imagine a more fascinating chapter in science than that dealing with the physics of radioactivity. It has not overthrown our previous theories of matter and energy—rather it has confirmed them—but it has enormously enlarged our knowledge of atomic structure and it has given rise to some of the most brilliant conceptions in physics. The subject therefore appeals strongly to any one who wishes to follow the development of scientific knowledge and it has the additional claim of marvelous interest. The book before us is an excellent popular statement of the subject. It is lucidly written; it is not overtechnical; and it fully preserves the inherent interest of the subject.

ATHLETIC GAMES IN THE EDUCATION OF WOMEN. By Gertrude Dudley, Director of Women's Department of Physical Education, University of Chicago, and Frances A. Kellor, Author of "Experimental Sociology." Cloth. Pp. 268. Price, $1.25. New York: Henry Holt & Co., 1909.

The authors state in the preface that they have attempted no study or discussion of gymnastics or sports, for there are already many volumes dealing with these subjects. Furthermore, sports are individual; their purpose is primarily recreative and they do not depend on cooperation. On the other hand, athletic games are social in their nature and may be used for both recreation and entertainment. The authors also state that while they have emphasized athletics as a training for citizens and as a part of general education, they have not underestimated their physical value.

The book is divided into three parts: Part 1 takes up the value of athletic games under the heads of "Citizenship and Social Education," "Educational Value of Athletics," "Instructors—Their Responsibility and Training." Under the heading of "Present Conditions," Part 2 takes up "Athletics in Secondary Schools," "Athletics in Universities and Colleges," "Athletics in Political and Social Organizations," and "Competitive and Public Games." Part 3, under the heading of "Methods of Instruction," takes up "General Training and Contests," "Basket-Ball," "Indoor Baseball" and "Field Hockey." The authors emphasize the educational value of athletics, especially in teaching the players fair play and loyalty to each other, self-control and obedience to orders.

Taken altogether, the book is an interesting and valuable one; especially, it should be of much use to teachers of athletics not only in schools for girls, but in coeducational institutions and schools for boys.

PRIMARY STUDIES FOR NURSES. By Charlotte A. Aikens, Late Director of Sibley Memorial Hospital, Washington, D. C. Cloth. Pp. 435, with illustrations. Price, $1.75. Philadelphia: W. B. Saunders Co., 1909.

This book is intended for first-year nurses. It takes up the usual subjects of anatomy, physiology, hygiene, bacteriology, therapeutics, materia medica, dietetics, and invalid cookery. The recipes are good and the importance of properly cooked and daintily served food is emphasized. An appendix contains among other things a list of household antidotes.

Marriages

WILLIAM L. BURKE, M.D., Baltimore, to Miss Margaret Tighe, in Baltimore, recently.

JULIUS LEWIS AMSTER, M.D., to Miss Bertha R. Kopf, both of New York City, June 23.

FREDERICK S. ROBERTSON, M.D., Herndon, W. Va., to Miss Mabelle Williams at Baltimore, July 19.

BENJAMIN ERNEST EVERSMEYER, M.D., Muscatine, Iowa, to Miss Cora Wende of Keokuk, Iowa, July 22.

FRANK TALIAFERRO, M.D., Mazon, Ill., to Miss Dora Orinda Bennett of Carlisle, Ohio, at Chicago, July 21.

Deaths

Joseph Martin Emmert, M.D. Jefferson Medical College, Philadelphia, 1872; a member of the American Medical Association; formerly professor of medicine in the Iowa College of Physicians and Surgeons, Des Moines; local surgeon to the Rock Island System; formerly president of the Iowa State Board of Health, Iowa State Medical Society and Medical Society of the Missouri Valley, and first president of the Botna Valley Medical Society; a member of the State Board of Parole and Pardons since April, 1907, and since July 1 of that year, chairman of the board; a member of the state legislature for three terms and state senator in 1898; died suddenly at his home in Atlantic, July 15, from cerebral hemorrhage, aged 63. At a special meeting of the Iowa State Board of Health July 16, resolutions of regret and sympathy were adopted.

William H. H. Cobb, M.D. University of Pennsylvania, Philadelphia, 1861; once president of the Medical Society of the State of North Carolina; ex-president and honorary fellow of the Tri-State Medical Association of the Carolinas and Virginia; a member of the Southern Surgical and Gynecological Association; assistant surgeon of the Second North Carolina Infantry, C. S. A., throughout the Civil War; formerly a member of the State Board of Medical Examiners; local surgeon to the Atlantic Coast Line Railway; died at his home in Goldsboro, July 21, aged 68.

Edgar Holden, M.D. College of Physicians and Surgeons, New York City, 1861; surgeon in the United States Navy, and United States Volunteers during the Civil War; a member of the American Laryngological Association and president of the Association of Medical Directors of Life Insurance Companies; chief medical director of the Mutual Benefit Life Insurance Company, Newark, N. J.; consulting surgeon to St. Michael's and St. Barnabas hospitals; died suddenly at his summer home in Chatham, N. Y., July 18, from angina pectoris, aged 70.

James Evans, M.D. University of Pennsylvania, Philadelphia, 1861; of Florence, S. C.; a member and formerly president of the South Carolina Medical Association; a member of the Tri-State Medical Association of the Carolinas and Virginia, Southern Surgical and Gynecological Association and American Social Science Association; for 15 years secretary of the State Board of Health; a surgeon in the Confederate service during the Civil War; died in a sanitarium in Clifton Springs, N. Y., July 15, aged 82.

John B. Bolton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; president of the Board of Health of Eureka Springs, Ark.; a member of the Arkansas Medical Society, Tri-State Medical Society, Medical Society of the Missouri Valley, and the Western Association of Obstetricians and Gynecologists, chairman and councilor of the Ninth District Medical Society; died at his home July 12, from septicemia, following an operation for the removal of gallstones, aged 56.

Willis Percival King, M.D. Washington University, St. Louis, 1866; Bellevue Hospital Medical College, New York City, 1871; assistant chief surgeon of the Missouri Pacific Railway from 1885 to 1899; at one time a lecturer in the universities of Missouri and Kansas; secretary of the Missouri State Board of Health from 1894 to 1898; for several years a member of the staff of All Saints' Hospital, Kansas City, Mo.; died at his home in Kansas City, July 12, from uremia, aged 69.

David Clair Stearns Parkhill, M.D. Albany (N. Y.) Medical College, 1866; a member of the medical staff of St. James, and Mercy hospitals, Hornellsville, N. Y.; a member of the American Medical Association and president of the Erie Railway Surgeons' Association; local surgeon for the Erie Railroad; a member of the staff of Steuben Sanitarium; died at his home in Hornell, July 20, from cerebral hemorrhage, aged 64.

Charles O. Hunt, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the Maine Medical Association; professor of materia medica and therapeutics in the Medical School of Maine, Brunswick; for 28 years superintendent of the Maine General Hospital, Portland; a veteran of the Civil War; died suddenly in the railway station at Scarboro Beach, July 24, from heart disease, aged 70.

James B. Cowan, M.D. New York University, New York City, 1855; formerly medical director of cavalry in the Confederate service during the Civil War; ex-president of the Tri-State Medical Society of Alabama, Georgia and Tennessee and Middle Tennessee Medical Association; died suddenly from heart disease in a drug store near his home in Tullahoma, Tenn., July 24, aged 77.

Homer Lycurgus Law, M.D. Jefferson Medical College, Philadelphia, 1869; a member of the American Medical Association; surgeon U. S. Navy, retired after 16 years service; examiner of recruits for the Navy during the Spanish-American War; died at his home in Hartford, Conn., July 17, from nephritis, aged 61.

Robert Lumley, M.D. Rush Medical College, Chicago, 1895; a member of the Illinois State Medical Society; secretary of the Iroquois-Ford Medical Society;; secretary of the board of health of Watseka and state examiner for the blind; died suddenly from heart disease, in Watseka, July 13, aged 47.

John Edward Redman, M.D. Northwestern University Medical School, Chicago, 1908; a member of the Utah State Medical Association; assistant pathologist and bacteriologist of Holy Cross Hospital, Salt Lake City; died in that institution, July 19, from tuberculosis of the kidneys, aged 24.

Wesley G. Matchan, M.D. College of Homeopathic Medicine and Surgery, University of Minnesota, Minneapolis, 1899; formerly surgeon of the Northern Pacific Railway, and the Soo Line, and physician to the North Dakota State Penitentiary; died at his home in Bismarck, July 21, aged 33.

Linnaeus D. Witherill, M.D. Geneva (N. Y.) Medical College, 1866; for 24 years supreme medical examiner of the Knights and Ladies of Honor; a member of the Binghamton Academy of Medicine; died at his home in Union, N. Y., July 22, aged 64.

Aaron Condit Ward, M.D. College of Physicians and Surgeons, New York City, 1886;; of Newark, N. J.; a medical director of the Prudential Life Insurance Company; died in Bad-Nauheim, Germany, July 19, from heart disease, aged 48.

John Dudley Usher (license, La., years of practice); lieutenant in the Confederate Service during the Civil War; a member of the board of health of Florence, La.; died at his home on Sicily Island, La., July 11, from cancer, aged 70.

Orson D. Reed, M.D. Missouri Medical College, St. Louis, 1894; a member of the American Medical Association; formerly of Rowena, Mo.; died at his home in Frederick, Okla., May 3, from rheumatic endocarditis, aged 39.

James Soren Sorenson, M.D. Rush Medical College, Chicago, 1890; of Shiocton, Wis.; a member of the Wisconsin State Medical Society; died in Neenah, Wis., Oct. 12, 1908, from chronic interstitial nephritis, aged 51.

Howard S. Oliphant, M.D. Tulane University, New Orleans, 1885; a member of the Louisiana State Medical Society; formerly of Batchelor; died at his home in Lettsworth, La., March 2, from heart disease, aged 48.

John S. Walston, M.D. Vanderbilt University, Nashville, Tenn., 1891; of Montesano, Wash.; a member of the American Medical Association; was found dead in a hotel in Seattle, July 21, from heart disease, aged 55.

Joseph Anderson, M.D. Kentucky School of Medicine, Louisville, 1853; of Denver, Colo.; a surgeon in the Confederate service during the Civil War; died July 17, aged 77.

William J. Inman, M.D. University of Oregon, Portland, 1906; postmaster of Rainier, Wash., for 8 years; died in the Fannie Paddock Hospital, Tacoma, February 13, from chronic nephritis, aged 43.

William Hail Arnold, M.D. Memphis (Tenn.) Hospital Medical College, 1893; a member of the American Medical Association; died at his home in Eupora, Miss., May 28, from nephritis, aged 36.

John P. Bell, M.D. University of Louisville (Ky.), 1885; one of the largest landowners of Southern Kentucky; died suddenly at his home near Bell, Ky., July 23, from heart disease, aged 51.

Philo Chesebrough, M.D. University of Vermont, Burlington, 1895; Medico-Chirurgical College of Philadelphia, 1893; died at his home in Scranton, Pa., June 30, from tubercular meningitis, aged 32.

Fountain Lorenzo Allen, M.D. Vanderbilt University, Nashville, Tenn., 1885; of Lamasco, Ky.; died at the City Hospital, Nashville, July 13, from septicemia, the result of carbuncles, aged 54.

George T. Carpenter, M.D. Rush Medical College, Chicago, 1880; of Chicago; at one time professor of dental surgery in the affiliated dental college; died at Buchanan, Mich., July 20, aged 61.

William J. Craigen, M.D. University of Pennsylvania, Philadelphia, 1859; formerly of Cumberland, Md.: died suddenly at his home near Baltimore, July 17, from cerebral hemorrhage.

William H. Fish, M.D. Medical College of Ohio, Cincinnati, 1875; a member of the Kentucky State Medical Association; died at his home in Nicholasville, Ky., July 19, from uremia, aged 57.

Marion A. Atkinson, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1872; died at his home in Eureka Springs, Ark., July 14, from cerebral hemorrhage, aged 62.

John Henry Crockett, M.D. College of Physicians and Surgeons, Baltimore, 1879; a member of the Medical Society of Virginia: died at his home in Tazewell, July 12, aged 56.

Nathaniel Bowditch Morton, M.D. Harvard Medical School, Boston, 1881; formerly of New York City; died suddenly in Long Beach, Cal., July 19, from heart disease, aged 50.

Thomas Brown, M.D. University of Nashville, Tenn., 1905; a member of the American Medical Association; died at his home in Memphis, July 14, from peritonitis, aged 26.

Jonathan Kay Wrigley, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1877; died at his home in Altoona, Pa., July 18, from cancer of the liver, aged 54.

Philip Z. Fretwell, M.D. Southern Botanical-Medical College, Forsyth-Macon, Ga.; died at his home in Conyers, Ga., June 3, 1908, from cancer of the stomach, aged 81.

Charles James Beise, M.D. Rush Medical College, Chicago, 1894; of Mankota, Minn.; died in Mapleton, Minn., in December, 1908, from tuberculosis, aged about 40.

Roy A. Miles Collins, M.D. Drake University, Des Moines, Iowa, 1904; of Portland, Ore.; was shot and killed by his wife in that city, July 24, aged 33.

James A. Shackelford, M.D. University of Maryland, Baltimore, 1876; of Greenville, Miss.; died at the home of his nephew in Carrollton, Miss., July 19.

Benjamin Franklin Garrison, M.D. Vanderbilt University, Nashville, Tenn., 1891; died at his home in Keota, Okla., July 14, from heat exhaustion, aged 43.

Robert W. Muhleman, M.D. Pulte Medical College, Cincinnati, 1877; died at his home in Bellaire, Ohio, July 18, from pulmonary hemorrhage, aged 55.

John R. Wright, M.D. Vanderbilt University, Nashville, Tenn., 1899; died at his home in Honea Path, S. C., July 20, from tuberculosis, aged 33.

Harrison W. Winstead, M.D. University of Nashville, Tenn., 1856; died at his home in Franklin, Tenn., Oct. 17, 1908, from chronic bronchitis, aged 77.

John Sutherland (license, Ky., 39 years of practice, 1895); of Willisburg, Ky., died at the home of his son in Harrodsburg, Ky., July 2, aged 83.

John M. Blackerby, M.D. Medical College of Ohio, Cincinnati, 1866; died at his home in Germantown, Ky., June 17, from senile debility, aged 88.

Ira D. A. Diller, M.D. Baltimore Medical College, 1898 died suddenly at his home in York Springs, Pa., July 12, from heart disease, aged 36.

Sara L. Valentine, M.D. Hahnemann Medical College, Chicago, 1887; died at her home in Chicago, July 25, from chronic nephritis, aged 66.

Ernst Jacob, M.D. Miami Medical College, Cincinnati, 1889; of Cincinnati; died in the Deaconess' Hospital in that city, July 19, aged 45.

George P. Phillips, M.D. College of Physicians and Surgeons, Baltimore, 1890; died at his home in Early Grove, Miss., July 14.

Alfred B. House, M.D. University of Michigan, Ann Arbor, 1866; died at his home in Memphis, Mich., July 9, aged 74

James M. Edwards, M.D. Tulane University, New Orleans, 1871; died at his home in Sturgis, Miss., July 16, aged 61.

Joseph Strawn, M.D. Jefferson Medical College, Philadelphia, 1869; died at his home in Philadelphia, July 16, aged 66.

Frank Hodge, M.D. University of Buffalo (N. Y.), 1860; died at his home in Hudson, N. Y., July 14, aged 75.

Society Proceedings

ASSOCIATION OF AMERICAN TEACHERS OF THE DISEASES OF CHILDREN

Third Annual Meeting, held at Atlantic City, June 7, 1909

The President, Dr. Charles Douglas, Detroit, in the Chair

Election of Officers

The following officers were elected: President, Dr. A. C. Cotton, Chicago; vice-president,, Dr. R. B. Gilbert, Louisville, Ky.; secretary, Dr. Samuel W. Kelley, Cleveland.

Should the Principles of Nutrition be Taught in our Schools?

Dr. Charles Douglas, Detroit: The subject of nutrition is of paramount importance to pediatrists. Its relationship to prophylaxis is obvious, inasmuch as it determines the size of the child. tends toward the preservation of health and to the prevention of disease in later life. The nursing mother should be taught what articles of food should compose her diet so as not to embarrass her child. School children are indolent and unwell because of deficient dietetic training in infancy. Bad nutrition causes dwarfism, dull and idiotic children. The evil can only be corrected by education. Children are compelled to study subjects that have no bearing on the preservation of health while many important subjects are entirely omitted in our schools. The result is that physicians are called to treat diseases that spring from ignorance of this important subject of nutrition. Instruction ought to be given on the function of all the organs of the body. If this plan be carried out, young girls when graduated from school will be versed on the subject of nutrition, and many grave errors will be thus avoided.

The Modern Physician and his Literature

Dr. LeGrand Kerr, Brooklyn: The days of the old time preceptor have passed due to the rapid strides made in medical literature. The preceptor, however, has no substitute. With the preceptor the young medical student had an opportunity of acquiring much practical experience; to-day, the young medical graduate knows nothing of the personal side of the practice of medicine. Clinical experience is probably the best. The text-book is the book most used because it is a record of everyday practice. The disadvantage is that it soon becomes out of date, is bulky and expensive. Medical periodicals accomplish much good. but unfortunately when wanted, they are usually found filed away. Less dependence should be placed on text-books. The senior medical student should be taught how to look up the references and how to use the same when found.

Neurasthenia in Infancy and Childhood

Dr. E. H. Bartley, Brooklyn: Neurasthenia in childhood is now commonly seen. In the etiology, heredity plays an important part, next to which stands gastrointestinal disturbances, unsuitable home surroundings, excessive school work, insufficient sleep, bad nutrition and adenoids. These children usually suffer from night terrors. headaches. anorexia, insomnia. enuresis, and melancholia. In considering the treatment the cause of the affliction must be searched for and removed. In many cases regulation of the diet, attention to personal and general hygiene, an abundance of fresh air and sunshine, long hours for sleep, and cheerful home surroundings will produce beneficial results.

DISCUSSION

Dr. J. W. Van Derslice. Chicago: These cases come to us daily and represent the beginning of later organic brain disease. In the treatment the hearty cooperation of the parents must be secured and the treatment be carried out. For the past several years I have put these cases on a restricted diet with very gratifying results.

Mentally Deficient Child in School, a Victim of Educational Methods and Incompetent Boards

Dr. H. Brooker Mills, Philadelphia: The various physical conditions of childhood such as enlarged tonsils, adenoids, etc., have a tendency to disturb the mentality and to arrest mental development. Many instances could be cited of the hardships imposed on such children by the present school methods of many of our large cities, particularly in keeping them too long in one grade, pressing them too hard with many unimportant subjects, and burdening them with home work for which they are mentally and physically incompetent. To remedy this evil, the following recommendations are offered: 1. Reduction of the school year from ten months to nine. 2. A reduction of the hours of the school day from five to four, with two hours' intermission. 3. Discontinuance of all home work. 4. The physical examination of every child at the opening of the school term in the autumn, and regularly every three months thereafter for the detection of adenoids, enlarged tonsils, impaired vision and hearing. 5. The instructing of the teachers to make careful note of the mentally backward child and report the same to the principal weekly for one month, at the end of which time, if there be no improvement, the referring of the child for medical examination as to its physical and mental condition. 6. The establishment of special schools or special classes in different parts of existing schools for the mentally backward children, each child to be graded according to its mental capacity, regardless of size and age. 7. Separate class-rooms for the boys and girls. 8. Separate schools, or at least separate class-rooms in different parts of existing schools for members of the colored race. 9. Careful inspection of the home life and surroundings of the mentally deficient child, especially as to heredity and the character and caliber of the parents. 10. The report of the school physician or of the family physician to be individually and collectively taken as final, so that the child's mentality may not be passed on by incompetent laymen. 11. Male teachers for the boys and female for the girls, with preferably a male supervising principal in all mixed schools. 12. All differences of opinion occurring between the family physician and the school physician as to the child's mentality and grading should be settled by reference to a third physician to be mutually agreed on by these two.

DISCUSSION

Dr. J. W. Van Derslice, Chicago: I agree with many of the points brought out by Dr. Mills, but am not in favor of a shorter school year. I am a firm believer in vacation schools, and think that most of the trouble with our present school systems is due to mismanagement. There should be more intermission during the hours in school.

Dr. W. C. Hollopeter, Philadelphia: I agree with Dr. Van Derslice that there should be more frequent intermissions for recreation during the school hours. I heartily approve of the recommendations laid down by Dr. Mills.

Dr. Henry I. Bowditch, Boston: I would like to add a thirteenth recommendation to those given by Dr. Mills. viz., the establishment of a vacation school in the open air during the hot summer months.

Dr. E. H. Bartley, Brooklyn: I am heartily in favor of establishing special classes for the mentally backward children, but I do not approve of the excessive pressure now brought to bear on the little ones during school hours. In my opinion the teachers have no choice in the matter inasmuch as they are compelled to follow a schedule laid down by a board of laymen which many of the little ones are unable to handle. I would urge a return to the old method of years ago when the teacher was the sole judge of what a child should be called on to do.

What Should Be Taught Concerning the Calorimetric Method for Practical Use?

Dr. J. W. Van Derslice, Chicago: By this method the potential energy of foods can be measured. Only by the estimation of food values can we prevent under-feeding and over-feeding. Infant-food values should be taught in all colleges. The estimation of food values can best be done by the metric system. Too many factors enter into the personal equation of the individual infant to lay down one hard and fast rule.

DISCUSSION

Dr. Henry I. Bowditch, Boston: Whatever method we employ in the feeding of infants we should understand that method thoroughly. Each child is a law unto itself, and what is suitable for one may be unsuitable for another. The calorimetric method should be taught as simply as possible so as not to confuse the student. We should not give the idea that it is all important, but that it is a valuable asset.

Dr. A. C. Cotton, Chicago: From observations in the middle west I think that the great majority of the profession is being led into error in looking on this method as a method of infant feeding. I hardly think that the older and more experienced men consider it a good method of feeding. The good physician will not stop to figure the weight of a sick child when ordering a formula. Who knows the caloric value of milk? The experiments performed in this connection have been highly unsatisfactory.

(To be continued)

NEW JERSEY STATE MEDICAL SOCIETY

Annual Meeting held at Cape May, June 23-25, 1909

(Continued from page 402)

Intramuscular Mercurial Ingestions in Syphilis

Dr. Henry A. Pulsford, Orange, said that these have the advantage over mercury administered by mouth or through the skin that one could tell exactly how much reached the circulation. If given by mouth, it was apt to produce diarrhea and to upset the digestion. In the case of inunctions, this was avoided; but there was an unpleasant local effect on the skin. Patients were apt to be irregular about taking their medicine, and to increase or diminish the dose according to their own ideas, and other people were likely to learn about the treatment. In the injection method, these disadvantages did not arise. The only objection to mercurial injections was the pain, first that of the needle thrust, and afterward that caused by the irritating effect of the mercury. It varied in degree with the different preparations used. In spite of the utmost care nodes were sometimes formed, containing a portion of the unabsorbed injection fluid; but this was exceptional. Embolism, though an alarming accident, had never proved fatal. The injection material should be as concentrated as possible. The points for successive punctures should be selected according to a definite plan, so that two or three months may elapse before a second puncture has to be made in the same spot. Trouble in the mouth was the danger signal showing that the treatment should be intermittent.

DISCUSSION

Dr. Henry J. P. Walhauser, Newark, called attention to the fact that the shifting of the needle was responsible for the production of emboli. A certain method of knowing whether the needle is in a blood vessel or not consisted in applying an empty barrel to the needle, and then exhausting. If the needle was in a blood vessel, blood would be drawn into the barrel of the syringe. He said that the injection plan of treatment would succeed when all other plans had failed, and made a plea for its more general use by the profession.

Dr. John M. Bradshaw, Orange, said that one should be careful to wipe the needle clean and dry with sterile gauze before the injection was given, thus avoiding pain and an inflammatory reaction.

Dr. H. A. Pulsford referred particularly to the use of gray oil, a difficult preparation to make, as it could not be sterilized, because sterilization broke up the emulsion. It must be prepared with sterile ingredients, in sterile utensils, and under aseptic conditions. He said that its use would repay the trouble of making it, as it caused surprisingly little pain.

Dyspepsia a Misnomer

Dr. W. Blair Stewart, Atlantic City, said that charlatans, vendors and fakirs had made "dyspepsia" a permanent factor in the minds of laity and profession. He considered the term unfortunate, and said that its use was decried by Dr. George B. Wood of Philadelphia. While the mistakes of earlier practitioners could be overlooked, he did not think at the present day that there was any excuse for snap judgments. One should find the real disease, and not call it dyspepsia. The earlier and more thorough the diagnostic methods used, the more lives would be saved and the more comfort obtained for the patients.

DISCUSSION

Dr. J. Finley Bell, Englewood, did not think that any physician had a right to take under his care for treatment a patient with indigestion or any one presenting symptoms referable to the stomach, without making a careful examination, physical, chemical and bacteriologic. He contended that the inconvenience and discomfort of the patient in being submitted to these tests constituted a very slight objection. Every physician should have in his laboratory the necessary apparatus. Even without the use of the stomach tube, much information, he thought, could often be obtained by examining carefully the vomitus and the feces.

Dr. Linn Emerson, Orange, thought that while it was ridiculous to say that everybody with gastric trouble was suffering from eyestrain, he considered it nevertheless true that this condition was often overlooked. Eyestrain, he said, could cause all sorts of nervous diseases and gastric disturbances. Another thing that would cause stomach disorder was oncoming presbyopia.

Dr. J. Watson Martindale, Camden, mentioned the absence of teeth as another cause of stomach trouble; also pyorrhea alveolaris, in patients with teeth.

Dr. Henry Chavanne, Salem, referred to indigestion produced by mental strain. He thought that before annoying patients by submitting them to the ordeal of various stomach examinations, it would be well for the general practitioner to try the effect of the administration of a little nux vomica or other simple remedy.

Dr. Philip Marvel, Atlantic City, did not think that a physician had any right, when he did not know the subject fully himself, to refuse to send his patient to some one who did. He feared that too many physicians were not sufficiently interested in the welfare of their patients to recommend another physician to assist in the determination of the condition present or in its relief. He said that it was within the power of the physician, at the time of passing the stomach tube, to determine the size of the stomach, whether it was distended or displaced, and whether the distribution of its contents was normal; also whether the digestive forces were slow, moderately slow, or extremely slow.

Dr. William F. Ridgway, Atlantic City, said that the symptoms improperly classed under the term dyspepsia were not always due to organic changes, but were functional disturbances that could be obviated by the use of very simple remedies. He did not believe it wise for the general practitioner to use the various tubes employed in investigating through long distances the alimentary canal at either end, as he had seen great injury result from their use by unskilled persons.

Dr. W. B. Stewart said that the tenor of his paper had been to emphasize the point that it makes no difference what a disease is called, if a cure is promptly obtained; but that if one's simple remedies fail, the scientific methods of the present day will enable one to discover the exact cause of the disease.

Problems that Confront the Component Medical Societies

Dr. Daniel Strock, Camden, said that a great loss in good-will and good-fellowship, and an opportunity to learn from others and instruct others, was caused by not belonging to a county medical society. The distinction of regular and irregular physicians should be abolished, because all had to pass the state board examination before commencing practice, and all colleges had to teach certain things. All physicians who have passed the state board should be eligible to membership in the county society. He also stated that the medical profession had begun to realize the advantage of having medical men in the legislature. If a physician was elected to a political office, the profession should rejoice; because, no matter what his politics, he was still a physician. He said that very few of the public realized that the profession did not approve of lodge practice; and he thought that more publicity should be given the matter.

(To be continued)

AMERICAN ORTHOPEDIC ASSOCIATION

Twenty-second Annual Meeting, held at Hartford, Conn., June 14-16, 1909

The officers elected were noted in The Journal, June 26, 1909, page 2112.

The Place of Arthrotomy in Tuberculous Joint Diseases

Dr. V. P. Gibney, New York: No material advance has been made in the treatment of these joints during the past three or four decades. Orthopedic surgeons should be able to do just as good work as abdominal surgeons; exploratory operations in the joint are no more harmful than similar operations in the abdomen. Statistics show that no one has been able to demonstrate that tuberculous meningitis is a sequel of operative treatment, and modern aseptic surgery should make an arthrotomy perfectly safe. There is no better way of disposing of the tuberculous lesion in the joint capsule than is afforded by this procedure.

DISCUSSION

Dr. J. D. Griffith, Kansas City, Mo.: Has any improvement been made in the treatment or in the length of time required for the cure of these cases during the last few years?

Dr. V. P. Gibney: I remove all the tissue possible by two incisions. I believe that if any real progress is to be made it will have to be started on entirely new lines. The joints should be cleaned out.

Further Observations on Bismuth-Paste Treatment of Tuberculous Sinuses

Drs. John Ridlon and Wallace Blanchard, Chicago: From another year's observation of the results of this method of treatment, added to the six months' experience with it already reported, we have drawn the following conclusions: It invariably fails in cases of marked amyloid degeneration. It fails much more frequently in new sinuses than in those that have existed several months or years. It should never be used when the *x*-ray shows a sequestrum. Its continued use is dangerous when large pus sacs become filled with residuary bismuth. It cures a majority of the cases of old tuberculous sinus.

DISCUSSION

Dr. V. P. Gibney, New York: I wish to report a case of sinus of twenty years' standing that I am sure was cured by the bismuth paste.

Dr. H. A. Wilson, Philadelphia: I used the bismuth paste for a while, but I was so afraid of bismuth poisoning that I substituted for it a paste made of the identical ingredients minus the bismuth, and obtained as good results with this as with the bismuth paste.

Dr. Albert Freiberg, Cincinnati: I believe that a great many of the tuberculous sinuses in joint disease exist because the tuberculosis is still active.

Dr. E. Ryerson, Chicago: I consider it dangerous to cut into any uncontaminated tuberculous abscess that is not evidently going to burst. I think it would be better to treat it conservatively.

Dr. W. S. Baer, Baltimore: It seems scarcely possible that a sinus can be cured by simply blocking it up. I think it more probable that the nitric acid thrown off from the bismuth paste does the work. It is possible that some way may be discovered of getting free nitric acid without the bismuth.

Dr. Prescott Le Breton: I prefer a plain oily mixture of spermaceti, iodin and vaselin.

Dr. Davis: I consider iodoform suitable. I have used 10 per cent. of it to the mass of wax.

Dr. A. G. Gillette, St. Paul, Minn.: The danger of the use of early injections has not been sufficiently emphasized. I once opened a tumor and found it filled with bismuth, which had been accumulating from the repeated injections. I think that the physician should wait a little and see whether the bismuth comes out, instead of following up the injections.

Dr. David Silver: When there are no sequestra I always close the sinuses with bismuth paste. I find it more satisfactory in old sinuses with hard walls.

Dr. M. Hoke, Atlanta, Ga.: In cases in which the bismuth treatment had failed I have healed a number of sinuses with pure tincture of iodin injections.

Dr. H. A. Wilson: While I do not understand how those sinuses close up solely from mechanical injection, I have reported the cases from actual facts. They do close.

Dr. J. J. Nutt, New York: Having been very unsuccessful with iodin, I principally use bismuth paste. The sinuses in my cases took about six months to close.

Dr. Bernard Bartow, Buffalo, N. Y.: I consider that the mechanical action of bismuth is irritating, just as iodin is, by bringing the blood in greater quantities to the parts and destroying the tissues.

Dr. S. L. McCurdy, Pittsburg: If there is a sterile abscess cavity that is quiescent I can get good results with any variety of paste. In the early ones I always use tincture of iodin.

Dr. B. Bartow: I have not found bismuth paste effectual in many cases of mixed infection.

Dr. Emil C. Beck, Chicago: Cases with no basis of bone in the cavity will clear up at once under the influence of the paste. Usually on the third or fourth day the secretion becomes serous; the sinus opening is covered with a scale-like membrane, resembling that which is found on the tonsil in diphtheria. I think, if my colleagues have failed to get good results from this treatment, they must seek for the cause in their technic.

Dr. W. Blanchard: I never open old abscesses that are stationary, but if I can open and inject abscesses that are going to open spontaneously the majority will heal without any trouble or any infection. I think that the reason for some of the bad results is that cases with retained sequestra are injected and the fistula closed, the result being simply a corking up of broken-down tissue.

Chronic Inflammation of the Lower Epiphysis of the Tibia

Dr. C. H. Jaeger, New York, reported five cases in which limp was the only symptom for which the patients sought advice. Roentgenograms showed a flattening of the head, with thickening, and in some cases necrotic areas of the neck of the femur. The clinical course of these cases was that of a chronic limp with increasing limitation of motion.

Operative Remodeling of the Tarsus for the Immediate Correction of Severe and Relapsed Forms of Club Foot

Dr. Bernard Bartow, Buffalo: This plan of treatment was based on the idea of the gradual remodeling of the deformity of the astragalus, cuboid and calcaneum, by which the deformed foot is replaced and maintained in an over-corrected position pending adaptive changes in those bones.

DISCUSSION

Dr. H. L. Taylor, New York: I remember that Dr. Myers of New York a number of years ago suggested along these lines, advocating the excavation of the astragalus. I do not know if he has followed this up or not.

A Preliminary Report of the Use of Animal Membrane in Producing Mobility in Ankylosed Joints

Dr. W. S. Baer reported eight such cases.

DISCUSSION

Dr. Osgood: After using some of this membrane for two weeks there was an increase of motion. Now there is about 80 degrees of motion in the knee, which is painless. Even if no better result can be obtained the patient is better off than before.

Dr. Galloway, Winnipeg, Manitoba, Can.: I think that the facility with which a flap of fat and fascia can be transplanted makes the introduction of any other foreign material unnecessary. I rarely advise operative interference. Is the chromicised pig's bladder ready for use or does it require special preparation to make it aseptic?

Dr. Davis: A discovery of this kind has been very badly needed, as the Cargyle membrane acted as a foreign body. I am more than glad that this membrane does not do so.

Dr. Jaeger: I have found that the pathologic changes that take place in a muscle that has been contracted for a number of years form a serious obstacle to treatment. Sometimes the muscles are of an almost board-like consistency.

Dr. Young: A few days ago Dr. Murphy told me that he thought that he had been able to perfect the treatment for ankylosis of the hip as well as of the knee.

Dr. A. H. Freiberg, Cincinnati: The knee joint is one that depends on its ligamentous support. Now when an operation involves practically the obliteration of the whole ligamentous structure I do not see how we could expect to have the movements of the joint under control, and if not under control, I think a stiff joint preferable.

Dr. Bradford: Is only one piece of membrane used in the knee joint?

Dr. Baer: The membrane comes ready for use. It can be softened by being put into normal salt solution. Dr. Jaeger is quite right; the bound-down and atrophic condition of the muscles is of great importance. I think that massage should be started immediately after the insertion of the membrane. I insert membrane in one or two pieces. One piece is carried back underneath the condyle as far as possible. A second piece is then laid between the patella and the top of the superior portion of the condyles, sewed well down at the sides of the folds of the synovial membrane to the lower surface, and then cut off.

Tendon Transplantation in Flat Foot

Dr. E. Ryerson, Chicago, advocates division of the peroneus longus and brevis in operations for correcting the mal-position of the foot, and said that there was a possibility of transplanting one or both of these tendons to the inner border of the foot, thus relieving the distorting tendency and supplying a partially corrective force.

DISCUSSION

Dr. Young: I have transplanted into the tibialis anticus and have always found this method satisfactory.

Dr. Meyers: I should recommend the transplantation of the entire tendo Achilles to the posterior surface of the os calcis.

Dr. M. Hoke, Atlanta, Ga.: The incorrectness of posture depends not only on muscular, but on skeletal changes. When there is a long-continued posture of abduction the head of the astragalus changes its shape. I have never done muscle or tendon transplantation, but have done a plastic operation on the head of the astragalus.

Dr. Wilson: One difficulty that I have encountered at an operation was in detaching the long stretch of tendon at the toe after it had been divided subcutaneously. I feel that Dr. Ryerson has added another procedure of distinct value in the correction of flatfoot.

Dr. Blodgett, Detroit: Three years ago I reported a series of cases in which, after linear tenotomy of both peronei, function was restored. I think that to turn all the force of the peronei into abduction and take away the opposition of abduction would insure weakness of that system.

Dr. McKenzie: I think that transplantation of the peronei would be more likely to be harmful than helpful. A tendon or any structure must necessarily pull from the point of its origin, its action reaching forward to its insertion. It pulls toward a pully, which is at the fibula, and must pull the foot outward instead of inward.

Dr. Rugh: In cases of paralytic valgus I have been in the habit of bringing the peronei posterior to the ankle joint or inserting them in either the scaphoid or the cuneiform.

Dr. Davis: In making a transplantation of the extensor longus hallucis the functions of these muscles should be borne in mind. The main function of the big toe is to give the thrust forward. Therefore, its strength is in its flexor.

Dr. Young: I would like to know whether or not there were any symptoms of palsy in Dr. Ryerson's cases? The case had been mistaken for palsy.

Dr. Ryerson: I think that Dr. Myers' suggestion of transplanting the tendo Achilles to the posterior surface of the os calcis most ingenious, and one that ought to be of great benefit in equino varus. I scarcely think, however, that it would help to correct a valgus foot, because the deformity is in front of the os calcis, and not in the rear.

Treatment of Talipes Valgus

Dr. R. T. Taylor, Baltimore, *said that* it was his aim to discard plates entirely in this condition, as their use is often abused. He also demonstrated single brace straps for talipes equino varus.

DISCUSSION

Dr. Cook: While agreeing with Dr. Taylor, I think that there are a few things not clearly brought out in his paper. In the first place, anything that holds up the inner posterior arch must divert the outer posterior, and when a foot is inverted the outer edge is depressed and the inner edge raised. Secondly, Dr. Taylor said that he had given up the use of plates, yet he certainly has adopted one of a different sort, as the piece of leather used is nothing more or less than a plate. I do not consider that Dr. Taylor has done away with plates at all; he merely builds them in his shoes. I think that Dr. Taylor's shoe might have a little better heel.

Dr. Le Breton: Could the average shoemaker make these?

Dr. Taylor: I do not see why not. I have one man who does all this work for me.

Dr. Twinch: What is the cost of the whole thing from the time the patient comes to the orthopedist until he has been satisfactorily fitted with shoes? People, as a rule, do not care to pay fifty dollars for shoes.

Dr. Davis: Perhaps the best solution of the question would be to have the patient buy a pair of store shoes and have the instrument maker split the shank and insert a piece of steel.

Dr. V. P. Gibney, New York: I wish to enter a protest against leaving cases of weak foot flatfoot, etc., to the shoemaker, after the first examination and prescription.

Dr. Galloway: I agree with Dr. Cook that plates can not be entirely discarded. I think that some such method as the use of simple plates, combined with muscle training and the education of the patient in the correct method of using the foot would be the most beneficial method of treatment.

Dr. Bradford: I think that if Dr. Taylor were to claim this as an invention he would find that some of the Boston shoemakers would issue an injunction against him.

Dr. V. P. Gibney: I hate to deprive any one of being the original plate man, but as far back as 1871 I was using plates very much like these employed at the present time.

Dr. Taylor: In regard to Dr. Davis' suggestion of using a ready-made shoe, the main difficulty is that the ordinary shoe is not sufficiently adducted. A special pair of shoes would cost eight or ten dollars.

Etiology of Hallux Valgus

Dr. J. K. Young, Philadelphia, ascribed the deformity to the presence of a supernumerary bone between the internal cuneiform bone and the base of the first metatarsal. He gave the clinical histories of some cases and exhibited *x*-ray plates and specimens to verify his hypothesis.

DISCUSSION

Dr. A. H. Freiberg, Cincinnati: I think Dr. Young's theory an interesting one, but believe that it has been presented in such an incomplete manner that one would not be justified in drawing conclusions from it.

Dr. John Dane, Boston: I have hunted for supernumerary bones in this locality, and have found a large number. In many of these cases, however, there was no hallux valgus; so in these cases the supernumerary bone had failed to produce this deformity.

Dr. C. Riely: When I saw Dr. Young's *x*-ray picture I realized that I had a patient with the same condition. I had an *x*-ray taken of my case and found that a supernumerary bone was present.

Dr. E. Ryerson, Chicago: Why may not this supernumerary bone be the result of the hallux valgus, and not the cause of it? I think that these outgrowths may be to a certain extent due to the application of Wolfe's law.

Dr. Wilson: I made a radiographic study of one hundred and fifty feet, but failed to find anything except a higher or lower degree of hallux valgus.

Dr. C. Riely: My patient's hallux valgus was *congenital.*

Dr. Young: Probably not more than one or two kinds of supernumerary bones produce hallux valgus, but I think my variety is the one that produces this deformity. I have not had time to demonstrate whether the supernumerary bone is the result or the cause.

(*To be continued*)

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-third Annual Meeting, held at Madison, June 30-July 2, 1909

(Continued from page 316)

Case of Pseudocoxalgia of Psychopathic Origin: Recovery Under Suggestive Treatment

Dr. Richard Dewey, Wauwatosa: The patient was a girl of 13 of neurotic temperament and heredity who had an intimate friend who suffered from hip-joint disease. The patient believed herself affected with the same disease and for over four months stayed in bed a good deal, though she went about occasionally on a crutch. She was treated with plaster cast and pulley and weight. She had daily attacks of pain attended by violent screaming regularly at a certain hour. Her left knee became hysterically contracted. Relief was obtained the first day of admission to the sanitarium by psychotherapeutic measures. The patient gained 10 pounds in two weeks and has now been well for a year.

DISCUSSION

Dr. Harold N. Moyer, Chicago: There has been a recasting of our opinions regarding hysteria, as well as neurasthenia and the various forms of psychasthenia and allied disorders. These conditions are often pure mental or even "soul" diseases, but they must be recognized and treated as real, although the disease has no physical basis whatever. The anesthesias in these cases are the result of suggestion, as are the narrowing of the visual field and all the typical so-called cardinal signs of hysteria. The condition is a pure suggestion neurosis, but organic troubles are frequently if not usually found associated with hysteria. The problem is to unravel these two conditions. These conditions must be treated earnestly and honestly with correct technic and not dismissed uncared for because there is no physical lesion. When the medical profession treats these diseases properly with correct technic, and as it is now beginning to do, all these Christian Science, Emmanuel and other movements will disappear.

Dr. W. B. Hill, Milwaukee: Inasmuch as these hysterical conditions are usually associated with organic lesions, the question arises as to whether or not the "soul" disease is not a result of the organic condition.

Dr. G. T. Adams, Kenosha: I think it likely that organic disease through lowering the patient's powers of resistance might lead to psychical phenomena. The use of the term "hysteria" should be condemned. The condition is real, but the term has come to mean something foolish, silly and controllable. Suggestion is the proper means of cure. Distract the patient's attention from his sufferings.

Dr. C. H. Searle, Palmyra, Wis.: These patients need rest, more or less as a rule, and to be kept from sympathetic friends and relatives.

Dr. A. W. Rogers, Oconomowoc: The term hysteria should never be used. To lack of sympathy with hysterical patients and inherent dislike to treat them, the medical profession is really responsible for the existence of cults.

Dr. Richard Dewey: Patients often receive unfavorable suggestions from the physician's examination. This class of patients is rarely conscious of deceit. There is nothing so good for these patients as a plain straightforward explanation, disregarding all clap-trap and attempts at hypnotism.

Anomalies of the Mastoid from a Surgical Standpoint

Dr. H. B. Hitz, Milwaukee: These anomalies, including some of the most difficult conditions met by the otologist, were illustrated by stereopticon slides of photographs and drawings of a large number of cases. An early diagnosis should be made and when it is positive as little time as possible should elapse before an operation is undertaken. When an operation is done, let it be thorough and complete. The day of halfway measures, of Wilde's incisions, timid scratchings of bone and the like, belong to a past age and generation. Use your best judgment and all other faculties to finish your work at one sitting, and thus avoid the manifold dangers of a secondary operation. Do not stop short of completion or pass by suspicious areas without careful investigation and, finally, in the light of some recent experiences of mine of having to patch up the faulty work of others, let me advise that unless you feel competent to cope rationally with the emergencies or unusual conditions you do not undertake a mastoid operation.

DISCUSSION

Dr. N. M. Black, Milwaukee: If more mastoids were opened, even when objective and subjective symptoms are hardly positive, fewer intracranial complications of otitic origin would ensue, and much suffering would be avoided. It is important that the operation should be thorough.

Dr. C. D. Conkey, Superior: The cellular condition of the mastoid is a great deal more extensive than we usually imagine. Bear this in mind in operating and be sure to break down all the diseased bone. A great many of the headaches in childhood may be ascribed to subdural abscesses, which are generally absorbed and heal themselves.

Conservative Surgery of the Ovaries

Dr. J. M. Dodd, Ashland: The tendency toward conservatism in surgery is growing. We now aim to leave a portion of the ovarian tissue in order to avoid precipitating a stormy menopause, which is often a more serious condition than the one for which the operation was done. Ovarian disease is not easily diagnosed; many cases are overlooked. Pregnancy is no contraindication to removal of the ovaries. Anesthesia, asepsis and skilled operative technic have robbed the operation of its terrors.

DISCUSSION

Dr. Edward Evans, La Crosse: Ovariotomy has been overdone. The conservation of the ovaries should begin at birth. Plenty of exercise, good hygienic surroundings, and relief from overwork during school life, prevent diseases of the sexual organs. In removal of ovaries diseased through gonorrhea or tuberculosis, leave no portion of the ovary behind, but do not always operate in gonorrhea. In many of these cases the patient makes a good recovery. Do not be too radical.

Dr. C. W. Oviatt, Oshkosh: Never remove any ovary without some definite and good pathologic reason. Every time a woman is deprived of her ovaries for some nervous condition she becomes a nervous wreck. Do not remove the ovary because of the existence of small cysts in that organ.

Diagnosis and Treatment of Renal Calculi

Dr. J. F. Smith, Wausau: During the last decade marked progress has been made in the diagnosis and treatment of renal calculi because of the introduction and more general employment of newer and more accurate means of diagnosis, such as the Roentgen ray, cryoscopy, ureteral catheterization and the determination of renal functional capacity. The following points may be emphasized: 1. Clinical symptoms are inadequate in the diagnosis of renal calculi. The Roentgen ray must be relied on to give accurate information as to the size, number and location of the stones. 2. Renal stone becomes a surgical condition as soon a definite diagnosis is made. Expectant treatment is to be recommended only in the presence of distinct and definite contraindications to a major surgical operation. 3. In the simple cases with a single stone, pyelotomy is the operation of choice; in the affected cases, cases with multiple or parenchymatous stones, *nephrotomy* with drainage is to be carried out; in the cases with extensive infection and destruction of renal tissue primary *nephrectomy* should be done in the absence of distinct contraindications.

DISCUSSION

Dr. F. G. Connell, Oshkosh: The history of the past few years shows conclusively that there are more cases of stone in the kidney and ureter than has previously been suspected. It is difficult to make differential diagnosis sometimes from appendicitis unless the cystoscope and *x*-ray are used.

Dr. E. A. Fletcher, Milwaukee: Great progress has been made in the treatment of these surgical conditions, but there is room for great improvement in diagnosis; mistakes in diagnosis have been very common. The *x*-ray, the cystoscope and ureteral catheterization are important means of diagnosis. The cryoscopic test is useful.

Dr. Dennis J. Hayes, Milwaukee: The main cause of these stones is obstruction. Kidney conditions involve the most difficult points of diagnosis in the whole range of surgery.

(To be continued)

AMERICAN ACADEMY OF MEDICINE

Thirty-fourth Annual Meeting, Hotel Dennis, Atlantic City, N. J., June 5-7, 1909

(Concluded from page 403)

What Is Being Done for Backward and Mentally Deficient Children in the Public Schools of Philadelphia

Miss Lydia A. Kirby, Director of Schools for Truants, Incorrigible and Mentally Defective Children: A systematic attempt to help backward and mentally deficient children was the result of efforts of Miss Margaret Bancroft of the Training School of Haddonfield, N. J., member of the Civic Club of Philadelphia, and Miss Dora Keen, of the Public Education Association. In 1901 the Board of Education took hold of the movement. At present there are twenty-one classes. The sessions last from 9 a. m. until 2 p. m. Nature study is given prominence. Each school is provided with a shop containing twelve work benches with tools, and some pupils who can not remember their spelling do good work with their tools. Other pupils have raffia, cardboard, Sloyd chair caning, basket making and hammock making. The training of the muscles at the dictation of the mind is one of the most valuable ways of helping these children. Sense-training exercises are used for those who are most defective, and special exercises are employed to correct defective speech. Music is a daily exercise, and physical training is given in the school yard. The school physician visits the class daily. The chief value of the teachers lies in their character and disposition. They must possess unlimited sympathy and patience. A record of the work shows conclusively that apparently hopeless cases of physical inability, moral and mental deficiency may be partly or wholly overcome, under adverse school conditions, with the aid of devoted teachers. The study of defective children should form a part of the work of every normal school.

What May Be Done for Exceptional Children by the Training of Speech and the Development of Language

Dr. G. Hudson-Makuen, Philadelphia: Speech bears somewhat the same relation to the mind that the hammer and saw bear to the carpenter. It is the mind's most effective and most important tool, being not only the vehicle in which the products of the mind are transferred and delivered, but being essential also to the creation of these products, to their crystallization, collection and classification. If a person's speech be trained and perfected his mentality must be greatly improved. Defective speech is both a physical and mental sign of feeble-mindedness, but it is by no means a pathognomonic sign, and it may be a cause and not a result of the feeble-mindedness. Of 5,000 examinations of exceptional persons observation and treatment ranged from several weeks to as many years. The examinations included individual and ancestral histories, and mental and physical investigations. In a series of five cases reported the children were all suffering from arrested speech development with a resulting corresponding arrest of mental development, or an abnormal mental development. In the first four the patients were under treatment for more than a year and the results have been most satisfactory. Only one of the children made any attempt to talk and his speech was a mere jargon. These four are now all talking freely and intelligently and have, moreover, freed themselves entirely from the charge of feeble-mindedness. In the fifth case there has developed some evidence of faulty cerebration. Aside from the direct mechanical means employed that were employed for the restoration of hearing treatment consisted entirely in the training of the faculties of speech. Four other cases reported illustrate what may be done for children who are exceptional on account of certain psychophysical peculiarities, one of the chief symptoms of which is defective speech, and they also illustrate the fact that speech training is probably the most direct and effective method of developing the human mind.

Discussion on Exceptional Children

Dr. Ruth Webster Lathrop, Philadelphia: In considering the physiologic aspect of the problem it is important to recognize that functional activities rest on the sure foundation of physics and chemistry. Physiologic potentials, the logical basis of Dr. Groszmann's comprehensive classification, depend on the storing of energy as cohesion, chemical affinity, etc. Life consists in the balance between the stored and liberated energies, the maintenance of identity of the organism and adjustment to the environment by responsiveness. The neuron doctrine holds an important place in cell physiology (the physiology of to-day). The neuron is the nerve-cell-body with all its processes, and it is the physiologic unit of the nervous system. A series of neurons make the paths by which most acts are accomplished. The diagrams presented by Dr. Groszmann illustrated only the neuronic paths for vision and its reflex response, but these are typical for all neuronic activity. Cerebral afferent, efferent and association paths constitute the mechanism as shown on these charts. Physiologic continuity must be distinguished from anatomic continuity. Normally, the brain may receive impulses from the cord and special sense organs, store them, distribute them within itself and reflect them; in other words, there must be normal sense organs, conduction paths and central cells. These cerebral acts are the basis of sensation, association, volition, the psychical acts, whose sum total is the mental life. Exceptional children vary in potentials, in the power to perform these normal acts, outside the limits of the average considered as normal. Many may be brought within the average variation by the same processes that are operative in the normal. Secure proper hygienic conditions; develop structures by use; shorten reaction time by practice; cultivate associative memory by experience, and by training inhibit all but the best responses to stimuli. Finally, since there is "nothing in the intellect not first in the senses" the normal must be secured and maintained by exciting sensation, thereby stimulating associative memory and thereby in its turn volition, the highest inhibition. Popularly this normal demands a sound mind in a sound body. In science this is conceived of as the physiologic balance.

Dr. Philip, Zenner, Cincinnati: In the results of physical examinations of school children in Cincinnati, there were found an enormous number of defectives with the indications that the defects of eyes, nose, throat or of other organs were not the prominent cause of the backwardness but that the backwardness was due rather to the mental type of the child and to the fact that the school work did not accord with its needs. This seems to be proved by the fact that an adaptation of the school work to the requirements of the child was followed by great improvement, though the physical defects were largely unheeded. The large number of defects found in these children shows plainly indeed the need of a school physician devoted to that work and especially prepared for it. His preparation should include ordinary school hygiene, special skill in the diagnosis of disease and defects of childhood, and an understanding when these defects should be treated, because I believe conservatism on the part of the physician is often of inestimable value to the child. His preparation should also include the psychology of childhood. He should be prepared to assist the teacher in the discovery of the cause for, and the proper treatment of a dull child, an incorrigible, or an ailing one. He should be thoroughly prepared further to explain to school children the problems of tobacco, alcohol and sexual hygiene. His influence also should be such that his advice would be followed.

Dr. M. P. E. Groszmann, Plainfield, N. J.: I should like to emphasize the point brought out that the school physician ought to be well trained for the important position he is expected to hold. The most inexperienced tyros are appointed who gain their experience at the expense of the children.

Dr. A. R. Baker, Cleveland: A point to be emphasized and one on which this Academy could speak authoritatively is that since so small a proportion of children are to become professional men their education should be conducted with a view to the practical rather than otherwise.

Dr. Farrington: I should like to emphasize that which I think Miss Bancroft would consider of extreme importance, the value and necessity of enthusiastic individual effort on the part of every physician to educate his patients. I believe that bodies of physicians can do a very great deal of good by bringing their influence to bear on this problem.

Dr. J. P. Murphy, Philadelphia: As Dr. Baker has said a large number of children are not meant for scholars and never can be such, so our work with these exceptional children should be to make good laborers, good mechanics out of them.

Symposium on Contract Practice: Its Present and Future

Congregational Practice

Dr. A. L. Benedict, Buffalo: The ethical and economic evils involved in contract practice are not intrinsic but circumstantial. The trouble with contract practice in the ordinary sense is largely that the premium is not calculated at an adequate rate to provide satisfactory attendance for an average incidence of cases. From the standpoint of the medical practitioner the contract physician is regarded in precisely the same light as any other worker who lowers the wage scale. From the standpoint of the laity his service is usually unsatisfactory because, with few exceptions, the man who accepts any form of contract at a loss will not discharge his obligations in good faith, and acceptance usually implies incompetence or the disposition to advertise himself. While certain fallacies of the Chinese method of paying the physician to keep his patient well are obvious, the fact is recognized that the value of the physician as an educator and conserver of health would be much greater than according to the occidental method of summoning him in sickness. From the standpoint of economics it is obvious that the interests of the average physician require some change from the present narrow method of rendering service to the laity and attempting the broader function of adviser to the community. It is none too early for the medical profession to consider seriously how it may actually fulfil this higher and more utilitarian function.

Contract Practice

Dr. Charles S. Sheldon, Madison, Wis.: For convenience we may class contract practice under two general heads: (1) Contracts stipulating a certain sum per year for an indefinite amount of work; as for example, the attending members and their families, belonging to a certain lodge or benevolent society, or the paupers of a city or county, or the operatives working at a certain factory, for a small sum yearly; (2) contracts stipulating a specified fair remuneration for a specified amount or kind of work; as for example, examinations for life insurance, for civil service, surgical work for railroad companies or factories, etc. In either class, if the compensation be commensurate with good service and compares favorably with that paid in private practice the most serious objection would be removed, but the tendency of the whole system is to obtain medical service at the lowest rates regardless of all else. In condemning the practice, there are certain exceptions suggested, provided contracts are made the basis of a legitimate price for the work stipulated; for example, with large corporations in remote and isolated mining or lumber camps. Under proper contracts, we may also accept railroad, city or county work, also hospitals and institutions employing a physician on a salary, also on vessels at sea, etc. But even these are not exceptions if the contract is awarded to the lowest bidder, and but little account is taken of skill and efficiency. The spectacle of reputable physicians underbidding each other to secure a contract is neither dignified nor professional and should be wholly discountenanced. If contract practice is bad for the parties most immediately involved it is equally injurious to the medical profession as a whole. At a time when we are endeavoring to effect an organization of the medical profession to secure better laws, better medical education and higher professional standards, this system stands as one of the most actively disturbing forces in preventing unity of action. If the profession really thinks that this thing is an evil and is threatening the future peace and prosperity of physicians, it can best be controlled by the expression, within the profession, of a public statement which shall be effective because founded on good sense and justice.

Contract Practice: Its Ethical Bearings and Relations to the Lodge and Industrial Insurance

Dr. H. T. Partree, Eatontown, N. J.: In my opinion, the only form of expressed contract to which a physician should become a party is that in which substantially his whole time is taken up in a special work concededly for the public interest, or at least, one which imposes no conditions out of harmony with the general aims and high calling of our profession. The bane of contract practice is the desire to get the best of a bargain. There are many phases of the lodge problem in its relation to the physician. Merit and the public weal certainly are not given prior consideration in connection with this contract practice feature of the lodge. Regarding the relation of the physician to industrial insurance, I contend, it is not to the dignity of the profession that its members should be expected to hustle around from pillar to post for 25 and 50 cent fees to see applicants in their own homes because they can not be counted on to walk ten rods to get the insurance. Besides it is usually necessary to see these individuals on Sunday—a most objectionable feature. My remedy is that all applicants go to the office of the examiner or local superintendent. Once the public learns that insurance would not be so expensive if they did a little seeking instead of letting the agent do it all, it would not take them long to find the examiner's office.

Contract Practice in Rhode Island

Dr. George S. Mathews, Providence: For convenience lodge practice may be classified according to (1) private clubs; (2) lodges and fraternal organizations; (3) works, or shop organizations. In discussing the subject of lodge or contract practice with a large number of medical men who engage in it, it was found that in but a few instances was there an ardent advocate of the system. In canvassing the members of the Rhode Island Medical Society it was found that nearly every one is opposed to the system. While the strongest advocate admits that there are some evils connected with the system, the severest critic must concede that under certain conditions there may be some good in the method. The remedy I would suggest is that proposed tentatively by a Committee of the British Medical Association several years ago:

1. Let there be lodges or fraternal insurance companies, but have the doctor paid a fee, even in bulk, more in proportion with the work done.
2. Let the membership in these organizations be limited to those whose wage is incommensurate with the needs of the family.
3. Have the medical management of the lodges in the hands of the local medical society or a committee of the society.
4. Have those physicians who are willing to do this work form a directory from which the individual lodge member may make his selection of his physician.

The Physician in Contract Practice with the Mutual Benevolent Societies

Dr. A. Ravogli, Cincinnati: Contract practice for the physician offers different aspects and is not to be summarily discarded. The mutual benevolent societies usually employ young physicians, but well-trained and of reputed skill. It is in their interest to have their members well attended and soon recovered that the sick benefits may cease. If the contract calls for merely a nominal remuneration with heavy duties, this is debasing of the profession. If the conditions are such to leave freedom to the physician to treat only the members of the benevolent society, and exacting payment from the other members of the family the contract practice can not be considered injurious to the profession. If another physician entered the society offering to do the same work for less remuneration, then the fault lies with the member of the profession and not with the benevolent society.

A Defence of Contract Practice

Mr. John C. McManemin, Past Worthy President Atlantic City Aerie, No. 64, Fraternal Order of Eagles: Although the "contract physician" is ostracised by medical societies, the members of these same societies, ofttimes enter the field of "contract practice" as assistants to other physicians, as family physicians for insurance companies and various like forms. Commercialism seems to be the basic principle of opposition to contract practice. The deprivation of fees is hidden under the shallow mask of lowering of professional ethics and cheapening of medical knowledge. The "contract physician" has a fixed income, obtains a large and varied experience from the heterogeneous practice and enjoys a confidential relation to a large portion of the community in which he resides; a foundation on which many a successful practice rests and to which many a physician of prominence to-day can attribute his success. He is a boon to the laboring man; to the man of wage and small salary, more especially if he be blessed with a large family, the thought of the expense incurred oft deters him from sending for a physician until the ailment has ravished the health of the patient, while had the ailment been treated in its incipiency, recovery might have ensued promptly. Then in prolonged illness the physician's fees often mean many years of struggling against debt.

Why Not Make Contract Practice Universal?

Dr. Woods Hutchinson, New York: Our present system of medical attendance is a makeshift and an anomaly. Born in an emergency and tinkered up at odd times. It has never been properly planned out or thought through. It combines the maximum of expense to the patient, and of loss by all sorts of accident, to the physician, with the minimum of health production and of prevention. Why not take advantage of the law of averages, both of mortality and morbidity, arrange a definite scale of fees for yearly attendance per patient and per family, and devote the best of our energies to keeping our patients well, instead of patching them up after they have fallen sick? The yearly fee, which could be carefully worked out by a conference of all parties concerned, and adjusted to the locality, income and social position of the patient, should include a thorough physical examination of every member of the family at least twice a year, whether they felt out of health or not; and sanitary inspection at regular intervals of the house, water supply, drainage and sewage, and conditions of places of work or study of each individual.

Discussion on Contract Practice

Dr. F. T. Rogers, Providence: It is not complimentary to us as physicians that the most logical presentation of this subject has to-day been made by a layman. Academic discussions of contract practice, though interesting are not always practical. The profession is looking for a remedy. That which prompts the young doctor to take up lodge and contract practice is the need of the dollar. Only when we have been through the adversity of early practice and have done our share of this belittling work can we afford to say how our brethren shall conduct their business. When Mr. Carnegie had made his millions by grace of the tariff he discovered that the tariff was unnecessary. It is the need of the man that governs this practice and it is the man himself who can remedy it. When a man makes himself so valuable to the world that his services are worth something he will not be bothered with contract practice. The remedy lies with us as men, not as members of a profession, and any action of this Academy which does not recognize this fact will be futile.

Dr. William L. Estes, Philadelphia: I can not give in a better way the effect of this method of practice than to cite actual instances. One was that of a former assistant who went into contract practice in the coal regions, who was given a monthly salary of $600. Apparently, for a man just beginning, that was an excellent thing. The facts, however, were that he had to care for about 3,000 people, which would mean about 56,000 visits a year. This necessitated engaging two assistants, which materially reduced his income and still left him under the necessity of making thirty to forty visits a day. Taking an average of fifteen hours for a working day, and devoting half an hour to each patient, he would be reduced to simply a distributing agent of ready-made tablets. When later after giving up this field and attempting to engage in private practice nearby he found that the idea of the lodge practice had permeated the whole community and that it was impossible to secure anything like adequate fees. In another case, that of a young man taking a lodge practice, the figures carried out would mean 7½ cents per patient per visit. I think the remedy for the evil lies in an organized profession elevating the standard of education and of morals which will bring with it the proper self-respect until people will see and understand that medical men can not be had but for a just and equitable distribution of the things which come to all people of the community.

Dr. Henry B. Hemenway: For over twenty-five years I have been a contract practitioner. I have been the surgeon for railroads, for industrial plants, for the health department of a municipality, all of which positions are phases of contract practice. I have had a little experience in lodge practice, entered into as a matter of accommodation to some of my regular patrons, and my experience in that regard has not been unsatisfactory. Yet I gave up my position as a lodge physician and have refused further work of that kind. I feel that it is detrimental. The idea that we shall eventually have a universal contract practice somewhat as suggested by Dr. Hutchinson, keeping our people well, is not to my mind utopian.

Dr. F. Lawrence, Columbus: If there is anything that has placed ignominy on the medical profession it was the medical service in the Spanish-American War, which was based on contract practice. When a man is paid practically nothing for what he does and there is no necessity for him to put forth personal energy he is done great harm and the day competition is removed from between two men one or the other is at a standstill. Thirty or forty visits a day as required often under contract practice means absolute inability to study the case properly.

Dr. Tomlinson: I feel that in the end the man who gets the best return for his services is the man who by his conduct, skill, interest and enthusiasm in his work deserves it. To my mind, the greatest disadvantage in contract practice, particularly for young men, is the development of slovenly, indifferent and utterly unscientific methods by which they become merely purveyors of the wholesale drug house.

Dr. Tuckermann: American physicians have been digging their own graves by doing, from a humanitarian idea, charity work for communities well able to pay. The whole question of whether or not the contract is equitable rests on whether the amount to be paid will allow a man to return proper service to the community, keep up his education and educate his family. If it does not it is not a proper contract. Public contracts are not charity transactions, and when we expect men to conduct clinics, carry out school inspection, etc., for inadequate pay we are making a sad mistake.

Dr. Thomas D. Davis: Regarding the definition of contract practice, it does not seem to me that it is fair to say that when a man agrees to charge a fee for a certain amount of work that that is contract practice. That we all must do in our professional work. What I believe to be contract practice is agreeing for a certain sum to do a whole lote of indefinite work.

Dr. Joseph K. Weaver: My impression is that the time is not far distant when contract practice, at least, in Pennsylvania, will be discontinued entirely, as it is now in the Montgomery County Medical Society of the state.

Dr. C. S. Sheldon, Madison, Wis.: I was painfully conscious that in this symposium we could arrive at no set of conclusions, that the effort was more a groping about to get out of a bad situation. As Dr. Hutchinson has suggested, there are perhaps some good points in contract practice, notably in the fact that some persons who are unable to pay regular prices have the opportunity of paying small prices with the preservation of their self-respect.

Dr. H. T. Partree, Eatontown, N. J.: It has been well brought out that the indefiniteness of lodge practice is the absolutely objectionable feature, and, as Dr. Weaver has said, medical societies throughout the country are frowning upon this aspect of contract practice.

Dr. G. S. Mathews, Providence: The matter is one of education, not only of the younger members of the profession, but of those older. I believe all could be brought to the point of seeing the wrong in the present system.

Medicolegal

Competency of Physicians to Testify as Experts

The Court of Appeals of Maryland says, in United Railways and Electric Co. vs. Corbin, that while great latitude has been allowed in the examination of medical experts, they should not be permitted to express their opinions because they are physicians, but experts must be confined to subjects about which they are, or are presumed to be, acquainted. If a physician does not know more about the effect of a given cause than jurors or other people do, his opinion can be of no service in enabling the jury to reach a proper conclusion. A physician may be a very intelligent man, and may be very well versed in his profession, but that does not make him competent to speak as an expert of things he is not specially acquainted with.

A physician who had been practicing since 1895, being a graduate of a medical college and for six years connected with a hospital, was competent to express his opinion as to the mental condition of a woman whom he attended for four or five days after she received certain injuries and saw her a couple of times later when her condition was such that he called another physician in consultation and advised her to go to the country so as to avoid excitement, but did not see her again until a few days before the trial of the action she brought to recover damages for her injuries.

It can not be doubted that there may be cases in which the opinions of physicians on such subjects may have undue weight. The opinion of a family physician of a juror will naturally have more influence on him than that of some other physician whom he does not know, or does not have the same confidence in, and hence trial courts ought to be careful to see that a physician so called on to testify has either had the opportunity to form a correct opinion from his own knowledge of the person whose mental condition is being inquired into, or that it is based on all the facts in the case reflecting on the subject, which facts the courts should be satisfied are sufficient to enable him to form an intelligent opinion from. The weight of the testimony is for the jury, but its admissibility is for the court to determine.

But the law of Maryland does not require the physician to be an alienist—in the sense that he is a specialist in that line. If such were the law, it would often deprive the jury of such aid as an honest and intelligent physician could give them in reaching a proper conclusion. It would greatly add to the expense of such trials, and would often deprive those of limited means of mental testimony, if no one but a specialist should be permitted to testify.

Again, where a physician had testified that he had had two electric shocks himself, and had had three patients suffering from electric shocks, though the latter were shocks from lightning, and not from electric wires, the court thinks that such experience as he had had, taken in connection with his medical knowledge, was sufficient to justify the court in permitting him to answer the question whether the condition of the plaintiff "was such that might naturally and probably have been produced by an electric shock."

Commissioner of Health Authorized to Correct Name in Record of Births

The First Appellate Division of the Supreme Court of New York says, in the case of People, on the relation of Baker vs. Department of Health of the City of New York, that on the 15th of the month, when a male child was born to the Bakers, the mother stated to the attending physician that she intended to name the baby Edward Young Baker, Jr., and on the 23d day of the same month she reiterated that intention to him; the statement on each occasion having been made in answer to a question put by him. On the latter date the physician made a record of the birth of the child on his registry, and forwarded a certificate thereof to the department of health, and in it stated the name of the child as thus given to him by the mother. The father was not present on either occasion, and he was not consulted by the attending physician with respect to the name of the child. It did not even appear that the mother knew the purpose of the inquiry, or that the physician intended to state the name of the child in the certificate of birth, but it did appear that the mother had not sufficiently recovered from her illness to discuss with her husband the name of her child until some three weeks after his birth, when they decided to name him William Henry Baker, by which name he was baptized and christened. Some two years later another son was born to the same parents, and was named Edward Young Baker, Jr. The court is of the opinion that when the above facts were duly presented to him the commissioner of health was authorized to make correction on the public records of the name of the first child, and that it was his duty to make such correction. Authority is conferred on the commissioner of health to correct the records by Section 1241 of the Greater New York Charter, which provides that no change or alteration shall at any time be made in any of the records in the bureau of records of the said city without proof satisfactory to and on the approval of the commissioner of health.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

July 22

1 *Bearing of the Experimental Investigation of Tumors on the Tumor Problem in General. E. E. Tyzzer, Boston.
2 Primary Carcinoma of the Jejunum and Ileum. H. W. Soper, St. Louis.
3 The Occurrence of Infantile Paralysis in Massachusetts in 1908. (Second Paper.) R. W. Lovett, Boston.
4 An Epidemic of Infantile Paralysis in Western Massachusetts in 1908. H. C. Emerson, Springfield, Mass.

1. **Experimental Investigation of Tumors.**—Tyzzer studied a series of 62 primary tumors in mice, and of these, 37, or about 60 per cent., originated in the lung. The next most frequent type of tumor in his series is the lymphosarcoma, of which there were 10. Only 8 of the 62 tumors were situated externally, and of these 6 were epithelial tumors. There were 4 tumors of the kidney, 2 of which are undoubted hypernephroma. There were ovarian tumors in 2, and a sarcoma in 1 case. Different types of tumors frequently occur in a single animal. Of the 49 animals of this series, 11 presented primary tumors of two types, and 1 primary tumors of four types. In the latter there was a hypernephroma, a lymphosarcoma, a papillary cystadenoma of the lung and an adenocarcinoma of the ovary. About 25 per cent. of these cases, therefore, presented multiple tumors of different types. Multiple primary tumors were probably present in a far greater proportion, for in many cases the lung tumors were multiple and occurred not only in a single lobe but in several lobes.

From this study it is obvious that production of tumors by the experimental inoculation of tumor tissue is brought about by the transplantation of cells rather than by the introduction of a virus. The tumors, therefore, do not develop from the tissues of the inoculated animal, but from the transplanted tumor cells. Peculiar conditions are not essential for the continuation of this growth. Certain tumors grow in normal individuals. Other tumors, however, require a special soil; they grow if transplanted into other parts of the same individual, but not if transplanted to other individuals. Growth is found to depend on the biologic character of the cells and not on their dislocation. The experimental investigations have made untenable the interpretation of cancer as an infectious disease. The development of sarcoma in animals inoculated with epithelial tumors is interpreted by most investigators with whom it has occurred to be the result of the irritating influence of the tumor epithelium.

Medical Record, New York

July 24

5 Scleroma of the Upper Respiratory Tract. J. H. Güntzer, New York.
6 *Brain Arches. W. Wood, New York.
7 *Rare Forms of Cyanosis: Polycythem [illegible] and Sulphhemoglobinemia. T. W. [illegible]
8 *Secondary Carcinoma of the Lung. [illegible] annah, Ga.
9 Percussion of the Lungs. H. Dayton, New York.

6. **Brain Arches.**—Wood has been working for fourteen years comparing the brains of man and animals to establish the relations of the different parts of the cortex. He believes that he is able to demonstrate that the human cerebrum is composed of four grand rings, or arches, surrounding the limbus or rhinencephalon. All brains are reducible to a single form, but the relations can only be established by comparison of several kinds of animal brains. At the posterior lobe the four rings from below upward are taste, hearing, sight and contact, or centers for tongue, jaws, arms and legs. The marginal gyrus forms arch number one. Number two comprises the second frontal convolution, medicentral lobe, angular gyrus and occiput. Arch number three is the third frontal, infracentral and first and second temporal. The fourth arch comprises the gyrus rectus, insula and third temporal. Diagrams are given to illustrate the subject.

7. **Rare Forms of Cyanosis: Polycythemia, Methemoglobinemia and Sulphhemoglobinemia.**—Clarke states that the immediate cause of cyanosis, *not due to cardiac or pulmonary* disease, may be in the blood condition, hence the first thing to do in making the diagnosis is to make a blood examina-

tion. There may be an abnormally high red cell content, or polycythemia, generally associated with an enlarged spleen and chronic constipation. Cyanosis may be due to a change in blood pigment; if this is the presence of methemoglobin, the condition may be due to drug poisoning, or autointoxication by the absorption of nitrites from the intestines in chronic diarrhea. If the pigment is sulphhemoglobin, it is probably associated with chronic constipation, and is the result of the absorption of sulphuretted hydrogen from the intestine, or of the presence in the blood of an abnormal reducing agent acting on small traces of sulphuretted hydrogen. These cases improve as enteritis gets better, or as the bowel is kept open.

8. **Secondary Carcinoma of Lung.**—Warfield describes a case of secondary carcinoma of the lung, following a removed cancer of the breast. There was no recurrence in the scar or in the skin of the breast. The metastases in both lungs were widespread, but there was no enlargement of the superficial or mediastinal glands. The most characteristic symptoms were dyspnea, in paroxysms out of proportion to the physical signs, and the scanty sputum. There was little loss of flesh. The physical signs in the lungs pointed to emphysema and chronic bronchitis. Nodules were found throughout both lungs and the liver.

Lancet-Clinic, Cincinnati, O.

July 24

10 Pathology and Treatment of Arteriosclerosis. L. G. Heyn, Cincinnati.
11 Arthritis Deformans. S. E. Earp, Indianapolis.
12 Gallstones. R. J. Jones, Greenfield, Ohio.
13 Uterine Disease—Chronic Endometritis, Endocervicitis. C. S. Ashfield, Cincinnati.

New York Medical Journal

July 24

14 Conditions in the Growth of Tumors. L. Loeb, Philadelphia.
15 *Colles' Fracture: Special Reference to the Lateral Deformity. P. P. Swett, Hartford, Conn.
16 Loose Body vs. Sesamoid Bone in the Outer Head of the Gastrocnemius. E. H. Skinner, Kansas City, Mo.
17 *Teaching of Tropical Medicine Outside of the Tropics. E. R. Stitt, Washington, D. C.
18 Treatment of Diseases of the Intestine in the Greco-Roman Period. C. G. Cumston, Boston.
19 The Human Body Viewed as a Machine. A. B. Judson, New York.
20 Diagnosis of Congenital Syphilis in First Weeks of Life. LeG. Kerr, Brooklyn.
21 *X*-Ray for the General Practitioner. S. McClary, Philadelphia.
22 Cicatricial Stenosis of the Pylorus. H. Weinstein and R. Cronson, New York.

15. **Colles' Fracture.**—Swett emphasizes the fact that typical Colles' fracture presents an anteroposterior and lateral deformity of the lower end of the radius with impaction of the upper into the lower fragment. In severe cases this is complicated by fracture of the ulnar styloid and injury of the ligaments and cartilage. Treatment demands efficient reduction of the bony fragments in the beginning. For this an anesthetic is desirable, because impaction must be broken up to avoid lateral deformity and widening of the wrist. Restoration of the functional and anatomic integrity of the wrist demands immobilization till the bone is united. This period varies from three to five weeks. Protection of the joint must be continued till healing is completed and all of the original traumatic inflammation has subsided. This period is from six to eight weeks when the ligaments are injured and from eight to ten weeks when the cartilage is injured. Gradual return to use favors a perfect result and avoids unnecessary complications and sequelæ.

17. Abstracted in THE JOURNAL, May 8, 1909, p. 1537.

Denver Medical Times and Utah Medical Journal

July

23 Value of Roentgenographic Examination. G. H. Stover, Denver.
24 Modes and Source of Infection in Typhoid. M. A. Robison, Reno, Nev.
25 *Specific Treatment for Typhoid. L. T. Durbin, Denver.
26 A Sequela of Scarlatina. W. C. K. Berlin, Denver.
27 Guaiacol in its Relation to Therapeutics. E. I. Thorn, Salt Lake City.
28 Anatomical and Physical Points Bearing on Hernia. A. J. Hosmer, Salt Lake City.
29 Treatment of Suppurative Peritonitis Following Appendicitis. E. C. Rich, Ogden, Utah.

25. **Treatment of Typhoid.**—Durbin cleanses the gastrointestinal tract by means of calomel and distilled water by mouth and soapsuds enemata and colonic lavage with sterilized water. In severe cases he uses a 1 to 7,000 bichlorid of mercury solution followed at once by plain sterilized water. The irrigations are continued till the temperature falls to normal and remains there. Enemata are continued beyond this period.

Texas State Journal of Medicine, Fort Worth

July

30 Goiter with the Surgical Treatment of Hyperthyroidism. C. H. Mayo, Rochester, Minn.
31 Chorea. M. A. Kelso, Enid, Okla.
32 Proficiency vs. Commercialism. F. L. Barnes, Trinity.
33 History of the Early Meetings of the State Medical Association of Texas. S. O. Young, Galveston.
34 Sterilization of Male Insane. F. E. Daniel, Austin.
35 Ten Cases of Epidemic Meningitis Treated with Flexner's Antimeningitis Serum. J. C. Erwin, McKinney, Tex.

Montreal Medical Journal

July

36 *Empyema and Delayed Resolution in Lobar Pneumonia. T. McCrae, Baltimore.
37 Metastatic Gonorrheal Conjunctivitis: Demonstration of the Gonococcus in Smear and Culture. H. McKee, Montreal.
38 Pathologic Anatomy of Congenital Hip Dislocation. W. G. Turner, Montreal.

36. **Delayed Resolution in Lobar Pneumonia.**—The points specially brought out by McCrae's study of a series of cases of empyema are the following: In the majority of instances empyema may be regarded as a complication of pneumonia rather than a sequel. It occurs relatively much more often in the colored than in the white race. Fever was the only manifestation always present. The physical signs are variable, and it is well to remember that vocal fremitus may be retained, even with a considerable amount of exudate. Of the physical signs, changes in the breath and voice sounds were the most useful single manifestations in diagnosis. The importance of the repeated use of the needle in all doubtful cases is emphasized. The study of this series of cases of delayed resolution suggests that the factors usually considered to be of importance as affecting its occurrence, such as apical involvement, advanced age, debility and cachexia, did not seem to have any influence. As regards age, three-fourths of the patients were between the ages of 17 and 40. The conditions which did seem to affect the incidence especially were (a) color, and (b) involvement of the lower right side. The colored showed a relatively high incidence as compared with the white race. The lower lobe of the right lung was concerned much more frequently than any other, both in the total number of cases and relatively in proportion to the number of cases in which it was involved in the pneumococcic process. The cause of this is obscure, unless it be diminished movement on account of the relationship to the liver. The physical signs show great variation and no general description can be given of them. This applies both to the signs during the continuance of the delayed resolution and during clearing. The diagnosis must frequently offer difficulty, and can often only be made by exclusion of other possibilities. Empyema and tuberculous pneumonia are the conditions which give the greatest trouble. As regards prognosis, while the danger to life is not great, it is never safe to predict absolute restoration in the lung. Permanent change may appear in a short time. The use of the *x*-rays is the most hopeful therapeutic measure, but these must always be used with caution and only after the diagnosis is positive.

Virginia Medical Semi-Monthly, Richmond

July 9

39 Treatment of Consumption. W. H. Coffman, Richmond.
40 Paranoia. J. T. Graham, Wytheville.
41 Scarlet Fever. J. D. Morgan, Washington, D. C.
42 Diagnostic Use of Tuberculin. M. Newton, Richmond.
43 Etiology and Pathology of the Summer Diarrheas of Children. E. P. Tompkins, Roanoke.
44 Placenta Prævia. W. F. Driver, New Market, Pa.

Journal of Ophthalmology and Oto-Laryngology, Chicago

July

45 Smith Operation for Cataract. D. W. Greene, Dayton, Ohio.
46 *Cannula in Lachrymonasal Duct for Twenty-eight Years. H. Worthington, Chicago.
47 Labyrinthine Nystagmus and Labyrinthine Disease. D. McKenzie, London.

46. **Cannula in Lachrymonasal Duct.**—Previous to 1881 the patient had suffered from chronic dacryocystitis, epiphora being the most troublesome symptom. During that year, 1881, he had a cannula inserted into the right lachrymal duct, which re-

mained in place without any attention until removed by Worthington in April, 1909, a period of over twenty-eight years. The patient states that until one year ago he had not the slightest discomfort from the cannula or the epiphora; the latter was practically entirely relieved. But during the past year he has been troubled with the epiphora, which has been getting worse until the past two months, when he has been greatly annoyed by it and wanted the cannula removed. The cannula was removed with little difficulty, and was found to be 1 3/16 inches long and markedly corroded. Material, gold. The openings along the sides were plugged up.

Journal Biological Chemistry, Baltimore

June

48 Mode of Oxidation in the Animal Organism of Phenyl Derivatives of Fatty Acids. Parts IV, V and VI. H. D. Dakin, New York.
49 Nuclein Ferments of Yeast. M. N. Straughn and W. Jones, Baltimore.
50 *Use of the Fermentation Tube in Intestinal Bacteriology. A I. Kendall, New York.
51 *Metabolism of Man during the Work of Typewriting. T. M. Carpenter and F. G. Benedict, Boston.

50. Fermentation Tube in Intestinal Bacteriology.—Kendall supplements his previous article by considering the explanation of some apparent discrepancies met with in the routine use of fermentation tubes in the study of fecal bacteria. He finds that while the amount of gas produced respectively in dextrose, lactose and saccharose by inoculation with mixed fecal bacteria is about the same under normal conditions, the amount produced in lactose is usually slightly less and sometimes very much less. Lactose, generally speaking, is less readily attacked by the facultative intestinal organisms, introduced from without, than by the normal intestinal bacteria. The amount of gas produced in lactose, is, on the whole, more constant than is the case with either dextrose or saccharose so that broadly speaking the gas volume and the character of the Gram-stained sediments in this carbohydrate are better indices of the relative viability of the obligated intestinal flora than are those of the other two carbohydrates.

A diet rich in protein tends to increase the extent of the intestinal tract occupied by the bacteria of the subtiloid type —(organisms which liquefy gelatin, peptonize casein and do not form gas in carbohydrates, but may produce small quantities of acid in dextrose and saccharose, the action being usually alkalin in lactose) and also causes an increase of aerogenic bacilli, *B. coli*, etc., while the growth of acidophilic bacteria is restricted. In such instances, there is usually a decided augmentation of the gas volume above that characteristic of a mixed diet. A carbohydrate rich diet, on the other hand, results in a limitation of the liquefying bacteria, a more or less marked restriction of the development of the aerogenic forms, accompanied by decided increase in the acidophiles. The gas volume is decreased; the fermentation tube thus enables one to form a conclusion as to the distribution of bacteria in the intestinal tract.

51. Metabolism During Typewriting.—Carpenter and Benedict show that the energy required for the work of writing 1,500 to 1,600 words per hour on the typewriter is very much less than that required for walking along a level road at a rate of 2.7 miles per hour.

University of Pennsylvania Medical Bulletin, Philadelphia

July

52 *Relations of the Stomach to the Total Work of Digestion. A. E Taylor, San Francisco.
53 Periportal Fibrosis of the Liver in Tuberculosis. R. S. Lavenson and H. T. Karsner, Philadelphia.
54 [illegible] lvulus Through a Traumatic [illegible], Philadelphia.
55 [illegible] Nerves of the Human Body.
56 [illegible] Combinations when Putrefactive Changes Occur in Tissues Derived from Animals Poisoned with Arsenic? J. Marshall and L. A. Ryan, Philadelphia.

52. Relations of Stomach to Digestion.—Taylor believes that the important functions of the stomach, physiologically and pathologically, are the motor functions; the lesser functions of the stomach, physiologically and pathologically, are the chemical or digestive functions. There is a striking zoölogic analogy in this. Despite the other differences in the acts of digestion in the carnivora, the omnivora and the ruminants, it is clear that in all, zoölogically and biologically the chief function of the stomach is to provide a repository for food, whereby the needs of the animal may be satisfied through infrequent feedings; to prepare the food for the work of intestinal digestion; and to deliver the food to the intestine in such a manner as to conform to its best utilization by the intestine. It would, of course, be going entirely too far to say, as has been said by several ultramodern surgeons, that the stomach is so dispensable an organ that it may be disregarded. Nevertheless, it is true that a balanced review of the total functions of the viscus leads us to a proper appreciation of its motor functions and to a proper limitation of the scope assigned to its chemical or digestive functions.

Colorado Medicine, Denver

July

57 Cancer of the Pancreas: Report of a Case. C. B. Van Zandt, Denver.
58 Latent Pelvic Infections. C. B. Dyde, Greeley.
59 Appendicitis. C. H. Graves, Canon City.
60 Differential Diagnosis Between Appendicitis and Pelvic Disease. W. F. Church, Greeley.

New Orleans Medical and Surgical Journal

July

61 *Serum Diagnosis of Typhoid. H. P. Brown, Brierfield, Va., and J. H. Kinter, Philadelphia.
62 Treatment of Tuberculous Laryngitis. R. B. Homan, El Paso, Tex.
63 Physiologic Action of High Frequency Currents. A. Henriques, New Orleans.
64 Case of Sialolithiasis. A. Jacoby, New Orleans.
65 Ureterovaginal Fistula, a Sequel of Panhysterectomy; Wertheim's Operation for Carcinoma of Uterus; Cured by Ureterocystotomy. W. Kohlmann, New Orleans.
66 Acute Diverticulitis of the Large Intestine. C. J. Miller, New Orleans.
67 Typhoid, Running an Intermittent Temperature. E. Kiblinger and A. Kiblinger, Alexandria, La.
68 *Two Cases of Ludwig's Angina with Bacteriologic Findings in One. E. M. Williams, Patterson, La.
69 Musculospiral Paralysis Resulting from a Syphilitic Periostitis of the Humerus. R. M. Van Wart, New Orleans.
70 Two Cases of Pellagra. J. N. Thomas, Pineville, La.

61. Serum Diagnosis of Typhoid.—Brown and Kinter examined 252 consecutive cases of every description admitted to the Policlinic Hospital during a period of three months for the purpose of determining the value of the serum test for typhoid. The results of this examination are as follows: Cases of acute infection of typhoid type in which the reaction was positive, sixteen. Cases of acute infection of typhoid type in which the reaction was negative or questionable, seven. Cases in which there was no suspicion of typhoid in which the reaction was negative, two hundred and fifteen. Cases in which there was no clinical evidence of typhoid in which the reaction was positive, fourteen.

From this study the authors conclude, first, that a positive agglutination test with *Bacillus typhosus* indicates that the patient from whom the blood serum was taken has typhoid or has had typhoid within a comparatively recent period. Second, in the absence of a positive agglutination test the symptoms are due to some other infection which should be diligently sought for. In some cases it is possible that the agglutinins have not yet developed in sufficient quantity in the patient's blood to give a reaction in a dilution of one in forty. Subsequent tests would clear up this point. Third, the persistent absence of the reaction even in the presence of clinical symptoms of typhoid would justify a positive opinion that the disease was not typhoid. The most common infections which give a clinical picture of typhoid are miliary tuberculosis and paratyphoid fever. No case of the latter infection was encountered in the two hundred and fifty-two cases.

68. Bacteriology of Ludwig's Angina.—Microscopic examination of a smear of the pus taken from Williams' case showed streptococci in large number, associated with bacteria closely resembling the colon bacillus, the latter probably accounting for the distinctly fecal odor of the pus.

Yale Medical Journal, New Haven, Conn.

June

71 Cardiac Arrhythmia. W. R. Steiner, Hartford, Conn.
72 Foreign Bodies in the Vitreous and Interior of Eye in General. E. T. Smith, Hartford, Conn.
73 Fibroid Tumors of Uterus. P. H. Ingalls, Hartford, Conn.

American Journal of Surgery, New York

July

74 *Contribution to Intestinal Surgery. Aseptic Intestinal Anastomosis (Enteroenterostomy and Gastroenterostomy). V. Pleth and V. W. Pleth, Guadalajara, Mexico.

75 Ochsner Treatment of Appendicitis. J. U. Barnhill, Columbus, Ohio.
76 Orbital Route to Accessory Sinuses. P. Fridenberg, New York.
77 Trophic Joint Diseases. M. A. Austin, Indianapolis.
78 Esophageal Carcinoma. W. P. Lang, New Haven, Conn.
79 *Colles' Fracture. J. W. Andrews, Mankato, Minn.
80 *Indications for Obliterative in Contradistinction to Reconstructive Endoaneurismorrhaphy. W. J. Frick, Kansas City, Mo.

74. **Aseptic Intestinal Anastomosis.**—The gut-arms (or parts) to be united are laid side by side and approximated near their mesenteric borders by a continuous linen thread suture, passing through only the serosa, for a distance of 6 to 7 cm. This the authors term the "first posterior suture" and black thread may be employed for this. A second continuous suture is applied parallel with the first one and very close to it; large grasps of the intestinal wall are taken up so as to effectually compress the vessels; this they term the "second posterior suture" and it may be of white thread.

An ordinary long steel knitting needle is passed into the lumen of one limb of the gut and out again at the desired distance, the knitting needle being parallel with the "posterior sutures" and about 1 cm. from them; the distance between the points of entrance and exit of the needle being less than the length of the "posterior sutures." The same procedure is repeated on the other limb of gut to be anastomosed. The needles are now brought close together and held securely. A long narrow-bladed forceps is placed beneath the needles and, compressing the opposed portions of the intestines, is securely locked. A Paquelin cautery burns away that portion of the intestine, which "bridges" over the needles. Burn until the needles are released.

The "second posterior suture" (white thread) is now continued around in front until it reaches the starting point; this is the "first anterior suture." The handle of the compressing forceps should always be placed at the starting point of the intestinal suture. The compressing forceps are now gently removed and the free ends of the "second suture" are tied together. The "first posterior suture" is now continued around in front until it reaches its starting point, when the free ends are tied together; this is the "second anterior suture."

79. Abstracted in The Journal, Jan. 30, 1909, p. 415.

80. Abstracted in The Journal, Jan. 9, 1909, p. 159.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

July

81 Goiter in the Mother and its Manifestations in the Offspring. G. Schmauch, Chicago.
82 Involuntary Muscle Fibers of the Pelvic Floor. W. E. Studdiford, New York.
83 *Dry Heat as a Therapeutic Factor in Gynecology. G. Gellhorn, St. Louis.
84 *Large Polycystic Kidney. J. W. Bovée, Washington, D. C.
85 Etiology and Pathology of Bilateral Polycystic Degeneration of the Kidneys. J. S. Neate, Washington, D. C.
86 Sudden Death Following Spinal Anesthesia. C. B. Reynolds, Philadelphia.
87 *Adhesion of the Placenta. W. R. Wilson, Philadelphia.
88 The Uterine Tampon in Postpartum Hemorrhage. T. J. Crowe, Dallas, Tex.
89 How Far is So-Called Conservative Pelvic Surgery Conservative? J. T. Kelly, Washington, D. C.
90 *[illegible] l, Chicago.
91 [illegible] lyn's Summer Infant Mortality. L. [illegible]
92 [illegible] l Prevention of Summer Diarrhea. J. [illegible]
93 Hygienic and Dietetic Treatment of Summer Diarrhea. LeG. Kerr, Brooklyn.
94 Medicinal and Mechanical Treatment of Summer Diarrhea. A. D. Smith, Brooklyn.

83. **Dry Heat in Gynecology.**—Gellhorn says that the employment of hot-air boxes or chambers is invaluable in the treatment of chronic exudates, irrespective of their location in the parametric tissues or in the pelvic peritoneum. The results obtained with hot-air in this affection can not be approached by any other method. The prompt objective improvement is intensified by an almost instantaneous relief from pain. The hot-air therapy has also been very promising in the treatment of certain menstrual disorders, notably amenorrhea. Furthermore, hot-air treatments have been found exceedingly useful in a number of conditions arising after operations, such as infiltration of the incision, postoperative fistulæ, paralysis of the intestines, etc. With growing experience, the sphere of usefulness for this new mode of treatment is likely to extend still further. As its application is quite simple, it is equally suited to hospital or private practice.

84. **Large Polycystic Kidney.**—According to Bovée the treatment of this condition is non-surgical, except in two conditions: 1. When the disease is unilateral or reasonably concluded to be so, and 2, when the cysts are so large as to be burdensome in any way. In the former, incision or possibly nephrectomy is advisable. If the ureter or other part of the purely waste-bearing portion of the corresponding half of the urinary tract is hopelessly obstructed beyond a period of six weeks, the function of the corresponding kidney will be permanently suspended and nephrectomy is preferable to incision or multiple incisions. But if urine is found to be pouring from both ureters, then nephrectomy should not be done, save in the very exceptional unilateral polycystic kidney. When it is at all apparent that the presence of the disease in one kidney had a tendency to stimulation of its development in the other kidney, Bovée would feel less positive in this matter. In the second condition puncture or incision seems applicable whether the disease be unilateral or bilateral. If cystoscopy reveals both ureters to be functionating, then, even though but one kidney is involved, nephrectomy should not be performed, except in the rarest circumstances—such as hemorrhage limited to the affected side.

87. **Adhesion of Placenta.**—It is Wilson's belief, first, that adhesion of the placenta occurs through overgrowth of the fetal portion from the necessity in some instances of securing the proper source of nutriment; second, in a practical sense, that the presence of complete adhesion should be suspected in cases in which in the third stages of labor efforts at expression fail, especially in the absence of bleeding.

90. **Pubiotomy.**—Reed believes that pubiotomy commends itself to the general practitioner because: 1. It is a desirable method of securing the delivery of 75 per cent. of his contracted pelvis cases, with best results for mother and child. 2. The cases of difficult version and extraction and difficult forceps will be reduced to a minimum, or if done will be done under the most favorable conditions. 3. The technic of the operation is simple and easily acquired. 4. The dangers are few and mostly to be avoided by any one with moderate surgical training and conscience. 5. The operation can be done in a very few minutes. 6. The labor is made easier and the chances for a living child are greatly improved. 7. It can be done in the home of the patient. 8. Only a very small armamentarium is required. 9. In many cases the pelvis is permanently enlarged, so that a subsequent labor may be normal.

Iowa Medical Journal

July 15

95 *Local Anesthesia in Hernia. A. C. Stokes, Omaha, Neb.
96 Infections Complicating Labor from a Clinical Viewpoint—Treatment. H. G. Welpton, Des Moines.
97 Unusual Skin Infections. W. F. Waugh, Chicago.

95. **Local Anesthesia in Hernia.**—Stokes uses the novocain and adrenin solution of Braun. The patient is given 1-4 gr. of morphin and 1-100 of hyoscin one hour before the operation is to begin. After arriving at the operating room the field of operation is prepared, as usual, and the local anesthetic is injected along the proposed line of incision and endodermically catching as many nerve endings as possible. Incision is then made through the skin and deep fascia to the aponeurosis of the external oblique. The external ring is laid bare and the area about it is anesthetized. Search is made for the hypogastric branch of the ilio-hypogastric, which makes its exit about three-quarters of an inch inward and one inch upward from the inner and upper angle of the external ring. Having found this nerve, it is blocked at its exit from the aponeurosis of the external oblique. It may be necessary to use a slight amount of the anesthetic in the aponeurosis of the external oblique, after which the aponeurosis is cut according to an approved method and separated from the internal oblique, and the ilio-inguinal nerve is seen to make its exit from the internal oblique a short distance above the border of the internal abdominal ring. This nerve is now loosened, and one may either dissect it out in its passage

down the inguinal canal to the external ring in front of the cord, or if time is an element, the nerve may be blocked at its exit and the operation continued. If it is dissected out it may be laid aside and the operation continued without blocking. This method is the most scientific but also the most tedious. The ilio-inguinal traverses the inguinal canal and makes its exit at the external ring where it supplies the integument over this area and a part of the scrotum.

The third and last nerve to be dealt with is the genital branch of the genitocrural. This nerve is often difficult to find, but the discovery of the same and the blocking of it is the most necessary part of the operation for the hernia. When this is done the dissection of the sac and the removal of the same is accomplished without much pain, and without disturbing the patient in any way. Occasionally it has been necessary to infiltrate the neck of the sac before removing same.

Stokes recommends that Braun's original solution be somewhat changed, i. e., that a larger per cent. of novocain be used, i. e., up to about 2 per cent. The anesthesia is more perfect and lasting. His experience with these cases has so far been very gratifying, and he is now recommending local anesthesia in nearly every hernia case.

Medical Fortnightly, St. Louis

July 10

98 Infant Morbidity and Infants' Milk Depots. I. S. Wile, New York City.
99 Some Reasons for Believing in and Encouraging Brain Surgery. C. D. Center, Quincy, Ill.
100 Surgical Treatment of Tubal Inflammation and Pelvic Abscess. C. R. Dudley, Hannibal, Mo.

American Journal of Physiology, Boston

July

101 *Can Functional Union be Re-established between the Mammalian Auricles and Ventricles after Destruction of a Segment of the Auriculoventricular Bundle? J. Erlanger, Madison, Wis.
102 Pseudofatigue of the Spinal Cord. F. S. Lee and S. Everingham, New York.
103 Innervation of the Coronary Vessels. C. J. Wiggers, Ann Arbor, Mich.
104 *Coagulation of Blood. L. J. Rettger, Baltimore.

101. **Re-establishment of Functional Union Between Auricle and Ventricle.**—Erlanger concludes: 1. That functional union can not be re-established between two parts of the heart whose functional continuity has been completely severed by thorough destruction of the connecting heart tissue. There is not the slightest hope of relieving heart block thus caused either by surgical interference or by the operation of natural regenerative processes. 2. That the cardiac excitation wave is not conducted through the auricle by the nerve trunk located in its tissue. 3. That the cardiac impulse is conducted through muscle fibers rather than through nerve fibers.

104. **Coagulation of the Blood.**—Current theories of the coagulation of the blood generally assume that it is a process of fermentation. Rettger concludes from his investigation that the coagulation of blood is probably not a fermentative process. It is usually understood that ferments act in the manner of a catalytic, and that they are thermolabile. The coagulation of blood, on the contrary, is, in the first place, clearly a quantitative reaction, and is probably, as stated by Nolf, a mutual precipitation of two colloids, fibrinogen and thrombin. The partial clots which never proceed farther, the successive clots which may be formed by successive additions of definite amounts of thrombin, and the approximate equality in amount between the sum of these successive clots and a maximum initial clot, indicate a definite quantitative proportionality. Careful quantitative weighings of the fibrin formed showed such a direct proportionality between fibrinogen and thrombin as would be required in a definite chemical combination of two substances. The further resistance of the thrombin in aqueous solution relatively free from dissolved proteins to boiling temperatures is a property not usual with the ordinary catalytic ferments. The recovery of thrombin from protein solutions, such as serum, which have become inactive on standing, or by being heated to 60 C., points toward the same conclusion. Such a recovery, whether by activation with alkali or acid or by putrefactive changes, is believed to depend on the dissociation of the combination of thrombin with some protein other than fibrinogen. In a similar way, the partial recovery of thrombin from fibrin, according to Gamgee's method, is more than the solution of mechanically absorbed amounts. The three main reasons given by Schmidt originally as proofs of the truly fermentative nature of his ferment are as follows: (a) Minimal amounts of "fibrin-ferment" will produce a complete coagulation. (b) The artificial serum contains after coagulation unused ferment with which several successive clots may be produced. (c) The ferment is destroyed at 100 C.

The first point has been shown to be incorrect. Minimal amounts produce correspondingly small clots. The quantitative relationship holds with all submaximal amounts of thrombin added to a fibrinogen solution if a submaximal amount has been added. If the clots are removed after four to twenty-four hours, the remaining fibrinogen solution remains fluid, but clots promptly form again on addition of further amounts of thrombin. The probabilities are therefore that the action of the thrombin is in no way that of an ordinary catalytic agent, but that the formation of the fibrinogen is essentially the mutual precipitation of two colloids from the plasma. The existence of a proferment or thrombogen or of kinase or coagulins is improbable.

The active coagulating agent is thrombin, whose properties and reactions were the chief questions of inquiry in this work. It is derived from the formed elements, in all probability, at the moment of their rapid disintegration when placed under abnormal conditions. In this pro-stage it is inactive in the blood. To become an active precipitating agent it is believed that minimal amounts of calcium salts enter chemically into the molecular complex.

The action of oxalates and fluorids in preventing coagulation is primarily the same. Both salts act by removing the calcium. In the oxalated plasma the free calcium is definitely precipitated; in the fluorid plasma the free calcium remains bound in solution. Dialysis or extreme dilution breaks the loose connection and thrombin results. Excess of calcium salts clots oxalated solutions at once. Excess of calcium salts of sufficient concentration clots fluorid plasmas, after the fluorid-calcium-protein combination is precipitated by this method. In both plasmas great excess of calcium salts inhibits and finally prevents coagulation, although it would seem that fluorid plasma is in this respect more readily inhibited than the oxalate plasma—a difference which may result from the formation of the heavy precipitate in the fluorid blood.

Quarterly Bulletin Northwestern Medical School, Chicago

June

105 *"Trachoma Bodies" Possibly the Etiologic Factor of Trachoma. B. Pusey, Chicago.
106 *Communicability of Vincent's Angina. W. H. Buhlig, Chicago.
107 Anomalous Insertion of the Pectoralis Major. H. M. Richter, Chicago.
108 *Fracture of Acetabulum with Displacement of Femoral Head into the Pelvic Cavity. W. E. Schroeder, Chicago.
109 Comparative Histology of Tonsillar Tissues. F. Menge, Chicago.
110 Clinical and Physiologic Aspects of Rupture of Chyle Duct. W. S. Hall and W. E. Morgan, Chicago.
111 [illegible] rrhage. C. R. Younger, Chicago.
112 [illegible] ple and Areola Treated with X-Rays.
113 [illegible] y. F. X. Walls, Chicago.
114 [illegible] on the Thyroid Gland. H. M. [illegible], Chicago.
115 The Cammidge Reaction in the Urine. W. H. Buhlig, Chicago.

105. **Trachoma.**—Pusey reports the finding, in a case of his own, of Halberstædter and Prowazek's "trachoma bodies" in smears stained with Giemsa's stain, taken on the third day of invasion. Many attempts at cultivation failed. These bodies are found in acute trachoma at the beginning of the disease, and are not found in conjunctivæ other than in cases of trachoma.

106. **Vincent's Angina.**—Buhlig reviews a number of cases of Vincent's angina, and concludes that it is necessary to believe that the condition is communicable within narrow limits. He calls attention to the purse-string tobacco bag frequently passed from one to another, the string being drawn tight by the teeth, as a possible medium of infection.

108. **Fracture of Acetabulum.**—Schroeder discusses this question on the basis of 49 collected cases, the last three being

his own. He suggests that in cases where there is any question as to the seriousness and extent of the injury, an exploratory operation should be made through Poupart's ligament. This will allow ample space for the repair of the injured structures and viscera commonly associated with this serious accident.

St. Paul Medical Journal

July

116 Vaccine Therapy in Genitourinary Diseases. H. L. Ulrich, Minneapolis.
117 Acute Diffuse Edema of the Lungs. G. Cross, Minneapolis.
118 Fused (Horseshoe) Kidney. B. Robinson, Chicago.
119 Expert Testimony as Seen and Rendered in South Dakota, with Suggestions of what is Needed. E. Klaveness, Sioux Falls, S. D.
120 Puerperal Eclampsia. F. Leavitt, St. Paul.
121 Forceps, Their Use and Abuse. H. T. Nippert, St. Paul.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 10

1 Unilateral Optic Neuritis from Intracranial Tumor. Sir W. R. Gowers.
2 Ionic Medication in Treatment of Obstinate Cases of Pelvic Diseases in Women. S. Sloan.
3. *Spontaneous Cure of Thoracic Aneurism. H. S. French.
4 *Treatment of Gonococcus Infections by Vaccines. J. W. H. Eyre and B. H. Stewart.
5 Delayed Chloroform Poisoning. T. C. Somerville.
6 Splenectomy for Injury. J. C. Renton.
7 Goiter. H. N. Crowe.
8 Modified Plan for Preparation of Chromic Catgut. C. H. Christal
9 A Medicolegal Case. W. H. Haw.

3. **Spontaneous Cure of Thoracic Aneurism.**—French performed a necropsy on a woman, aged 74, who came under observation nine hours before her death suffering from acute dyspnea associated with râles and rhonci all over both lungs, and yet with so little available history that a precise diagnosis could not be made. She died apparently from acute edema of the lungs, and at the postmortem examination it was found that she had typical granular kidneys, adherent pericardium, and a healed thoracic aneurism. It is difficult to say for certain whether the aneurism itself accelerated death, but had there been no aneurism at all one would have been content, from the postmortem appearances, to diagnose acute edema of the lungs the result of atrophic red granular kidneys. The distance between the aortic valves and the orifice of the innominate artery was stretched and lengthened so as to measure six inches, and in the middle of this, on the right side three inches above the aortic valves, was a brown opening less in diameter than a sixpenny piece (10-cent piece), with calcareous edges, through which the finger-tip could just be inserted, to come into immediate contact with a hard material which was found to be firm, laminated and extensively organized contents of a saccular aneurism, which looked nearly the size of a tennis ball and was spherical and approximately three inches in diameter. This aneurism, except quite close to its aortic orifice was entirely filled with hard, laminated, fibrosed clot, which was everywhere adherent to the wall of the sac and so hard that it could not be broken down by the fingers; nor could the fingers be pushed between it and the wall of the aneurism. The contents of the sac came right up to the level of the wall of the aorta, so that the aneurism could truly be said to have been spontaneously healed.

4. **Gonococcus Infections and Vaccines.**—Eyre and Stewart made an unusually careful clinical study of the value of the vaccine treatment in 53 cases of gonorrhea of varying grades of severity. They found that in acute gonorrhea the gonococcus vaccine is markedly toxic and exerts a profound influence over the disease. For routine work (hospital outpatients, etc.), vaccine treatment is not devoid of danger and requires the exercise of considerable caution. A stock vaccine, comprising a dozen different strains, gives results only slightly inferior to those observed when using a vaccine prepared from the patient's own organism. This is not the rule in most other diseases. Small doses, repeated at short intervals, are more effective than large doses at lengthened intervals. Small doses of vaccine (from 1,000,000 to 10,000,000) are safer and more satisfactory than the large doses (from 50,000,000 to 100,000,000) which are often prescribed. After an injection of from 500,000 to 2,000,000 the negative phase is either absent or extremely transient. An inoculation of from 5,000,000 to 10,000,000 causes a negative phase of usually not longer than 48 hours' duration, followed by a positive phase of from three to five days. Vaccines in small doses serve the double purpose of raising and steadying the opsonic index. A steady index just above the normal is found to be the most favorable condition for rapid recovery. In simple chronic gonorrhea in which the gonococcus has ceased to be the infecting organism these cases are on a par with other chronic inflammatory states, but are frequently more difficult to cure owing to environment and local conditions. Chronic cases in which the gonococcus is the sole infecting organism have a better prognosis from the point of view of treatment by vaccine than a mixed infection or one of staphylococcus only. In chronic gonorrhea with complications, the estimation of the opsonic index is helpful to diagnosis and is a useful means of determining approximately the opsonic state of the blood. Chronic gonococcus infections, however, present clinical features which themselves afford valuable indications during the course of vaccine treatment. When the gonococcus alone is the infecting organism, if the opsonic index can not be obtained so frequently as is desirable, routine injections of from 1,000,000 to 2,000,000 doses every three to five days are safe and satisfactory; a lapse of five to seven days after doses of 5,000,000; an interval of eight to ten days after inoculation of 10,000,000. Larger doses than these are seldom desirable. Treatment by small and gradually increasing doses at frequent intervals should at all times be observed; the use of large doses is even more dangerous than in acute cases, and may be followed by disastrous consequences. In orchitis, small doses of vaccine quickly relieve pain and cause a more rapid abatement of symptoms than obtains by the usual routine treatment alone. In iritis the severe pain, which is a marked and obstinate feature, is relieved in 48 hours after an injection, and disappears in from three to four days; cure is much hastened. In arthritis the treatment is of considerable value.

British Medical Journal, London

July 10

10 *Treatment of Chronic Degenerative Lesions of the Heart and Aorta. Sir J. Barr.
11 Blood Pressure in Man. Sir L. Brunton.
12 Diagnosis and Operative Treatment of Chronic Gastric and Duodenal Ulcer. D. Drummond and R. Morison.
13 Pain in Mucous Colitis and in Irritable States of the Colon in General. T. S. Wilson.
14 Intussusception Accompanied by Polypus and Stricture. R. V. de A. Redwood.
15 Impaction of Gallstone in Small Intestine: Laparotomy: Recovery. H. Ross.
16 Empyemata Associated with the Bacillus Coli Communis: Treatment by Antitoxin. J. S. Pearson.
17 Quinin in Syphilis. H. C. French.

10. **Chronic Gastric and Duodenal Ulcer.**—Drummond and Morison emphasize the necessity and value of cooperation between physicians and surgeons in the effectual handling of these cases. During three and a half years they saw 123 cases, in which a diagnosis of chronic gastric and duodenal ulcer was made which were treated by gastroenterostomy. Of these cases, 72 were gastric, 28 were duodenal, and 23 were not classified. Of the total number of patients on whom gastroenterostomy was performed, 118 recovered, and 5 died. In several of these other operations in addition to gastroenterostomy were done at the same time.

Gastric Ulcers.—The cases numbered 14, all in women; 8 of these report themselves as perfectly cured at periods of from 4 years to 18 months since the operation. Two are very much improved, but still have some symptoms. One of these, operated on twenty months ago, has no vomiting now, and only occasional gastric discomfort, but has had two attacks of melena. She had an ulcer on the lesser curvature of the stomach. The other, operated on two years and ten months ago, has to be careful of what she eats. Three can not be traced. One patient died.

Ulcers of the Pylorus.—These presented symptoms of active ulcer but without stenosis. There were 16 cases, 10 men and 6 women; 12 have been traced, and of these 10 are completely cured, 2 still have some symptoms but are greatly improved; 4 can not be traced.

Cicatricial Stricture of the Pylorus (the result of ulceration.)—There were 36 cases, 20 men and 16 women; of these 3 can not be traced, 29 report themselves quite cured, 2 report that they are no better.

Hour-Glass Contraction of the Stomach.—There were 6 cases, 5 women and 1 man. Five report themselves cured; 1 states that she is greatly improved, but still has occasional pain after food. In 4 of these cases on account of the amount of contraction present, gastroplasty was performed in addition to gastroenterostomy; 1 had cholecystotomy (for gallstones), gastroplasty, and gastroenterostomy. Of these 4, 3 are cured. The fourth is the patient who reports improvement.

Duodenal Ulcers.—There were 28 cases, 25 men, 3 women. Five of these had stenosis of the duodenum, in addition to active ulceration; 20 report themselves perfectly cured, able to take any kind of solid or liquid food without trouble, and in good health. One patient, a man, aged 36, had gastroenterostomy performed in 1904 for duodenal ulcer. He remained well until 1906 when his symptoms recurred, and an operation was done for occlusion of his pylorus. He remained well, so far as his digestive system was concerned, but died in July, 1908, of phthisis pulmonalis. Two report themselves improved, but still have stomach symptoms; 1 of these was operated on only a year ago, and still continues to improve, his old symptoms though present, being less marked. In the other, on looking up the notes, the only evidence of organic mischief was adhesions round the first part of the duodenum, but no ulcer could be felt from the inside. One is not improved; 2 died.

Various.—There were 23 patients under this heading: 3 had both gastric and duodenal ulcers. Posterior gastroenterostomy was performed in all. They are all now quite well. Three patients were operated on, but no certain evidence of ulcer was obtainable. Seven had a tumor at the pylorus which was thought to be an inflammatory mass round an ulcerated area. Of the 7, 4 can not be traced (suggestive of malignant disease and death). In 2 cases stricture of the jejunum, one tuberculous, one malignant, less than a foot from its origin, led to stomach dilatation, and caused pain and vomiting. They were mistaken for gastric ulcers and operated on by posterior gastroenterostomy, the junction being effected beyond the stricture. Both recovered. In 6 cases other conditions—cirrhosis of the liver in 1, pancreatic disease in 1, neurasthenia in 4—existed as complications, and the remote results following operation on the stomach have been unsatisfactory, for none of them is materially benefited.

Medical Press and Circular, London

June 30

18 Clinical Examination of Spinal Cases. J. J. Clarke.
19 Dilatations of the Female Urethra. R. D. Purefoy.
20 Roentgen Rays in Diseases of the Stomach. V. Schmieden.
21 Prevention and Treatment of Dysentery. W. J. Buchanan.

Clinical Journal, London

June 30

22 Interpretation of a Temperature Chart. N. Moore.
23 Natural History of Cancer of the Uterus. J. Bland-Sutton.
24 *Treatment and Prognosis of Cases of High Arterial Blood Pressure. O. K. Williamson.

24. **High Arterial Blood Pressure.**—Of 17 patients showing a blood-pressure upward of 200 mm. which first came under Williamson's observation in 1906 and 1907 he has been able to follow up 13, of whom 8 have died and 5 are still living (February, 1909). Two of the patients died from cerebral hemorrhage, 3 as the result of chronic interstitial nephritis, one from "heart trouble" (this patient had aortic incompetence), and 2 from unknown causes. Moreover, the longest interval between the date of first observation and that of the death of any of these 8 patients was a year and a quarter.

Practitioner, London

July

25 The Dietary for Goutily-Disposed Persons. Sir D. Duckworth.
26 *Treatment of Uric Acid. J. F. Goodhart.
27 Treatment of Gout in Its Various Forms. A. P. Luff.
28 Relation of Gout to Granular Kidney and to Lead Poisoning. S. West.
29 Cardiovascular Manifestations of Gout. P. Kidd.
30 *Gout in Relation to Disease of the Nervous System. J. Taylor.
31 Cutaneous Manifestations of Gout and their Treatment. J. Galloway.
32 Balneologic Treatment of Gout with Special Reference to Bath. G. A. Bannatyne.
33 Balneologic Treatment of Gout. W. R. Gore.
34 Balneologic Treatment of Gout at the Continental Spas. S. Rendall.
35 Changes in the Joints in Gout. C. G. Watson.
36 Metabolism of Nucleins in Gout. I. W. Hall.
37 Gouty Throat. J. E. McCracken.
38 Recent Literature of Gout. A. W. Sikes.

26. **Treatment of Uric Acid.**—Goodhart claims that all the uric acid solvents, so much vaunted, appear to be equally useless for that special purpose, but salines have their value, if given with discrimination, for facilitating the excreting power of the several abdominal glands. And in this way water is probably one of the best remedies, but even water drinking, if excessive, is not to be indulged in with impunity, for Goodhart says he is by no means prepared to assent to what appears to be the popular belief that water being harmless, it matters not what amount is imbibed in the 24 hours. In his opinion, the late Sir William Robert's simple prescription of half a dram of bicarbonate of potash in a tumbler of water at bedtime, to stem the nightly acid tide, is on the whole, one of the most useful recommendations, apart from tonics, cures at watering-places, and change of scene and air.

30. **Gout in Relation to Disease of Nervous System.**—Taylor believes that the relations of gout to diseases of the nervous system are, for the most part, indirect. An acute attack of gout may be ushered in or accompanied or succeeded by grave nervous disturbances—even acute maniacal disorder—but this is not common. Severe neuralgic pains, in parts other than that acutely inflamed, and considerable irritability or depression, may be present during an attack of gout, but no grave structural alteration in the nervous system is to be apprehended as an immediate concomitant or effect of the seizure. Yet it can not be denied that manifestations of nervous disorder, frequently of considerable importance, tend to occur in gouty persons, and many such diseases are directly or indirectly the result of the gouty state.

Glasgow Medical Journal

July

39 Shakespere Doctors. W. Findlay.
40 Pathology and Treatment of Atrophic Rhinitis. J. Adam.
41 Study of Some Schools and School Children in Glasgow. D. McKail.

Journal of Laryngology, Rhinology and Otology, London

July

42 *Fourteen Cases of Intracranial Disease Complicating Middle-Ear Suppuration. A. L. Turner.
43 Modifications Introduced into Bronchoesophagoscopic Instrumentation as the Results of Experience. Dr. Guisez.

42. **Intracranial Disease Complicating Middle-Ear Suppuration.**—Turner reports fourteen cases in all of which an operation was done. The diagnosis of leptomeningitis was not regarded as a contraindication to operative intervention, as it was considered right to remove the primary focus of infection in the middle ear cleft, and by the repeated lumbar puncture to remove so far as possible the infected cerebrospinal fluid. Of the fourteen patients, four recovered and ten died. The four successful results were obtained in uncomplicated cases of sigmoid sinus thrombosis, two patients complaining of acute and two of chronic middle ear suppuration. A patient with uncomplicated cerebellar abscess survived for two and one-half months after operation, but at the end of that time died from meningitis. If the eight patients with leptomeningitis be deducted from the total, we have 6 without meningitis, of whom 4 recovered and two died, the two fatalities being the case of cerebellar abscess just referred to, and a second case of cerebellar abscess with sinus thrombosis. In the latter case death resulted from septic encephalitis in connection with the cerebellar wound; obliteration of the sinus followed the operation, and no further trouble was experienced with it. The cases of sinus thrombosis were the most satisfactory to deal with. In all of them the internal jugular vein was divided between the two ligatures as a routine practice, and the upper part of the vein and jugular bulb syringed out; thorough removal of the clot from the upper part of the sinus was recognized by the free bleeding which occurred

Annales de Gynécologie et d'Obstétrique, Paris

June, XXXVI, No. 6, pp. 321-384

44 Electricity in Gynecology. Indications and Technic. A. Zimmern.
45 Primary Cancers of Greater Omentum. (Tumeurs malignes primitives du grand épiploon.) L. Litchkous.

Annales de Médecine et Chirurgie Infantiles, Paris

June 15, XIII, No. 12, pp. 397-432

46 Pulmonary Tuberculosis with Cavities in Children. (Tuberculose pulmonaire caverneuse chez l'enfant.) E. Gaujoux and Brunel.

Grèce Médicale, Syra, Greece

XI, Nos. 1-2, pp. 1-4. Last indexed July 17, p. 241

47 Hemoglobinuric Fever of Chemical not of Direct Parasitic Origin. (La fièvre hémosphérinurique est-elle palustre?) J. Foustanos.

Presse Médicale, Paris

June 30, XVII, No. 52, pp. 465-472

48 Infantile Paralysis of the Muscles of the Foot. Treatment by Partial Arthrodesis. C. Ducroquet and P. Launay.

July 3, No. 53, pp. 473-480

49 Infection of the Blood by Bacteria from the Intestines. (Infection du sang par les bactéries de l'intestin.) Garnier and L.-G. Simon.
50 *Disinfection of Books. (Désinfection de livres.) P. Desfosses.

July 7, No. 54, pp. 481-488

51 *Vomiting from Chloroform. (Vomissements chloroformiques.) P. Blanluet.

50. **Disinfection of Books.**—The introduction of the Marsoulan system seems to have solved the problem of a simple, effectual method of disinfecting books without injury. According to the description given by Desfosses, the books are automatically beaten and the dust and air are constantly aspirated by a vacuum tube. After this the books are suspended by a clip holding the covers of each book, opened backward, and the frame containing the horizontal tiers of books is run into an oven where they are subjected to heat and the fumes of formaldehyd. This method is said not to harm the paper or bindings, while it is inexpensive, practical and sufficiently effectual to answer the desired purpose for circulating libraries and for school books. [An illustrated description of the same process is given in the *Scientific American*, July 24, 1909.]

51. **Vomiting from Chloroform.**—Blanluet remarks that the vomiting from chloroform is not only annoying but impairs the solidity of the suture and weakens the patient while postoperative pneumonia and bronchitis, he is convinced, are due more frequently than generally supposed to inhalation of solid or fluid particles during the vomiting. Flemming has recently reported a remarkable instance of this: A healthy young man vomited during a herniotomy, and auscultation at once revealed large subcrepitant râles at a point where twenty-four hours later bronchopneumonia developed. Blanluet even asserts that many early fatalities as chloroform is given are in reality due to the nausea and retching; the closure of the glottis accompanying the latter imprisons in the body an excessive amount of the chloroform and carbon dioxid while preventing intake of oxygen. The patient should be given a light diet the day before the operation, peptonized milk predominating, and some sedative will be found useful by reducing the amount of the anesthetic necessary. The tendency to vomit is increased, he thinks, by movement of the body, especially when the anesthesia is not complete, consequently he advises keeping the patient still under the influence of the anesthetic until he is safely returned to bed. Of equal importance is the maintenance of an even temperature of the body, and removal of the patient from an atmosphere charged with chloroform. Inhalation of oxygen after the operation may also aid in prevention of vomiting. If there has been much secretion and swallowing of saliva, lavage of the stomach, before the patient regains consciousness; may be advisable. If vomiting occurs, the tendency may be corrected by cold applications to the stomach or injection of ergot or picrotoxin. Paterson makes a practice of injecting 1 c.c of a 2 per cent. solution of picrotoxin after the operation, repeating the injection with half the dose if a tendency to vomit develops, and has reported good results.

Semaine Médicale, Paris

June 30, XXIX, No. 26, pp. 301-312

52 Hysterical Aphasia. G. Marinesco

Archiv für klinische Chirurgie, Berlin

LXXXIX, No. 3, pp. 505-853. Last indexed July 3, p. 83

53 Injury of Pulmonary Vein. (Fall von Verletzung der Vena pulmonalis.) A. v. Eiselsberg.
54 *Unusual Metastases of Tumors. (Einige Fälle von seltenen Geschwulstmetastasen.) P. Clairmont.
55 *Operative Treatment of Brain Tumors. (Zur chirurgischen Behandlung von Hirntumoren.) H. Leischner.
56 Experimental Transplantation of the Hypophysis into the Spleen. (Transplantation der Hypophyse in die Milz von Versuchsthieren.) P. Clairmont and H. Ehrlich.
57 Operative Treatment in 61 Cases of Cleft Palate. (Uranoplastik.) E. Ranzi.
58 *Arteriomesenteric Occlusion of the Duodenum. (Zur Frage des arteriomesenterialen Duodenalverschlusses.) H. v. Haberer.
59 *Radical Operation of Carcinoma of the Large Intestine. (Radicaloperationen des Dickdarmcarcinoms.) W. Denk.
60 Functional Capacity of Lateral Enteroanastomosis. (Leistungsfähigkeit der lateralen Enteroanastomosen.) H. v. Haberer.
61 *Value of Colostomy in Inoperable Carcinoma of Large Intestine, and of the Rectum. (Werth der Colostomie bei inoperabeln Dickdarmcarcinomen, besonders bei Carcinomen des Mastdarms.) P. Odelga.
62 Primary Bilateral Mammary Carcinoma and True Umbilical Adenoma. (Zur Beurtheilung multipler Tumoren.) H. Ehrlich.
63 Deforming Osteitis. (Zur Kenntniss der Ostitis deformans Paget.) E. v. Kutscha.
64 Case of Multiple Enchondromas and Exostoses. H. v. Haberer.
65 New *Method of Treating Habitual Dislocation of the Shoulder* by Plastic Operation on the Muscles. (Zur Behandlung der habituellen Schulterluxation mittels Muskelplastik.) P. Clairmont and H. Ehrlich.
66 Inflammation of Tendons and their Sheaths without Effusion. (Ueber Tendovaginitis crepitans.) O. v. Frisch.

54. **Unusual Metastases of Tumors.**—Clairmont relates a number of case histories to call attention to the possibility of some unsuspected and hidden primary tumor when confronted with tumors in unusual locations with peculiar histologic findings. In one case a benign myxoma of the femur caused metastases which proved malignant. In another an apparently primary mammary tumor proved to have been the metastasis of a lymphosarcoma in the mediastinum. In another case bile and liver-cell structure was observed in a tumor removed from the skull which was then accepted as metastasis of a cancer in the liver, previously unsuspected, but suggested by darting pains under the right costal arch of which the patient had complained. A tumor under the right ear in another case showed the structure of a metastatic adenocarcinoma, and the right lobe of the liver was palpable and hard. In a case of cirrhosis of the enlarged liver a tumor in the right lower jaw also revealed a metastatic adenocarcinoma. In another case metastatic tumors in the inguinal region and elsewhere in the skin were the metastases after ablation of an adenocarcinoma of the male mamma. In two other cases a tumor in the subcutaneous tissue of the leg proved to be carcinomatous and probably a metastasis of the uterine cancer discovered months later. The necessity for search for the primary tumor in these unusual cases is apparent.

55. **Operative Treatment of Brain Tumors.**—Leischner gives the details of the tumors of the brain and posterior cranial fossa treated by surgical intervention at von Eiselsberg's clinic at Vienna during the last six years, a total of 23 cases. The outcome depends on the nature of the tumor and its operability, and this, unfortunately, can not be determined beforehand. Satisfactory permanent results to date have been obtained only with benign tumors or cysts.

58. **Arteriomesenteric Occlusion of the Duodenum.**—Haberer's case was a typical example of compression of the duodenum at its curve by the root of the mesentery although the compression was relieved as the operation proceeded and might easily have been overlooked. This finding explained the syndrome observed as a primary, frequently recurring kinking of the duodenum, caused by the artery in the mesentery root, with secondary hypertrophy and dilatation of the stomach. The case was complicated by a large umbilical hernia which was readily remedied through the laparotomy incision for the intestinal trouble higher up. The hernial sac was not excised but used as plastic material to re-enforce the suture.

59. **Operations on Cancer of the Large Intestine.**—Denk summarizes 39 cases in which the carcinoma was removed at von Eiselsberg's clinic during the last eight years.

61. **Colostomy for Inoperable Cancer of the Large Intestine.**—Odelga reviews the experiences in this line at the same clinic,

deploring the unsatisfactory results in many cases as the colostomy was not attempted until too late. He urges it as a routine procedure earlier, without waiting for severe stenosis, and states that under these conditions it may allow long survivals and give great relief. The colostomy, he thinks, should be done in two sittings and if possible be axial. Sixteen of the patients lived for two years or more thereafter, one for ten years, out of the 175 thus treated. Thirty-eight of the patients died within two weeks, including 15 with preexisting peritonitis.

Beiträge zur klinischen Chirurgie, Tübingen

May, LXIII, No. 1, pp. 1-243

67 Importance of Reactive Hyperemia in Arteriosclerotic Necrosis. W. Bergemann.
68 *Operative Treatment of Gastric Lesions. (Operativ behandelte Magenerkrankungen, 1897-1907.) J. Kindl.
69 Mechanism of Hole Fractures. (Mechanismus der Lochfrakturen.) E. D. Schumacher.
70 *Traumatic Separation of Lower Epiphysis of Femur. (Traumatische Lösung der untern Femurepiphyse.) H. Hilgenreiner.
71 Elasticity of Peritoneum in Connection with Development of Acquired Hernia. (Experimentelle Untersuchungen über die Elasticität des Bauchfells in Bezug auf die Entstehung der erworbenen Hernien.) G. Moro.
72 Changes in Peritoneum in Hernial Sac. (Histologische und functionelle Veränderungen des Peritoneums in Bruchsäcken.) Id.
73 *Subcutaneous and Intramuscular Neoformation of Bone by Injection or Implantation of an Emulsion of Periosteum. (Knochenneubildungen durch Injektion bezw. Implantation von Periostemulsion.) T. Nakahara and A. Dilger.

June, No. 2, pp. 245-445

74 *Operative Treatment of Gastric Crises by Resection of Seventh to Tenth Posterior Dorsal Roots. O. Foerster and H. Küttner.
75 Postdiphtheritic Stenosis of Esophagus. (Postdiphtheritische Speiseröhrenverengerungen.) W. Danielsen.
76 *Ultimate Results after Operations for Epigastric Hernia. (Dauerresultate nach Operationen der Hernia epigastrica.) Capelle.
77 Pedal Arrangement for Ether Drop Anesthesia Apparatus. (Ein Aethertropfnarkosenapparat mit Fussantrieb.) A. Bauer.
78 Blood Cysts in the Neck. (Blutcysten des Halses.) K. Spannaus.
79 Primary Sarcoma of the Joint Capsule. (Primäre Sarkome der Gelenkkapsel.) Hannemüller.
80 Occurrence of Langhans' Giant Cells in the Striped Muscles in Syphilis and Their Importance for Diagnosis. (Vorkom- [illegible] Riesenzellen bei der Syphilis der [illegible] und ihre Verwertung für die [illegible]
81 Granuloma and Sarcoma. (Granulationsgeschwülste und Sarkome.) H. Coenen.
82 Research on Staphylococcus Opsonins. Id.
83 *Urinary Lithiasis in Württemberg. (Verbreitung und Aetiologie der Blasensteinkrankheit in Württemberg.) H. Küttner and S. Weil.
84 *Neuropathic Joint Lesions and their Diagnosis with Roentgen Rays. (Die neuropathischen Gelenkerkrankungen und ihre Diagnose durch das Roentgenbild.) R. Levy and K. Ludloff.

68. **Operations on the Stomach.**—Kindl gives the details of 230 operations on the stomach, only 112 of which were for malignant disease. The report issues from Schloffer's clinic at Innsbruck. In 82.6 per cent. of the 74 cases in which gastroenterostomy was done for a non-malignant affection, the patients were permanently cured (46) or materially improved (11). Of the 16 patients with cancer treated by resection, 4 are still living, 1 after three and a half years; the average survival was from two to nearly three years. Of the 69 cancer gastroenterostomies, 4 patients are still living, over a year since the operation. The technic, etc., are described in detail.

70. **Traumatic Separation of the Lower Epiphysis of the Femur.**—Hilgenreiner's article fills more than a hundred pages; he adds 6 to the 104 cases he has found on record, and gives the summaries of each. He is convinced that only the severe cases are published, so that the lesion is much more frequent in reality than the literature would suggest. Twenty illustrations accompany the article and the diagnosis, complications, treatment, etc., are discussed.

73. **Neoformation of Bone After Injection of an Emulsion of Periosteum.**—This communication from Narath's clinic at Heidelberg relates the successful outcome of experiments in which periosteum from the tibia of young rabbits was cut up fine with scissors and the scalpel, emulsified in salt solution and blood, and injected into the muscle or subcutaneously into another animal. The scraps of periosteum proliferated just as effectually as when large pieces are implanted. It is important, however, not to allow the periosteum to be crushed—the experiments with it ground in a mortar were always failures. It is necessary also to use large amounts of the periosteum. As it retains its vitality for a number of hours after death, it may prove possible to use the periosteum from young cadavers for therapeutic injections. The principle is similar to that of Bier's method of injection of blood into a joint to hasten reparative processes, but the periosteum emulsion has the advantage that it supplies along with the blood the material to ensure neoformation of bone. The patient is spared extensive surgical intervention, and the condition can thus be remedied without the necessity for extensive surgical measures.

74. **Operative Treatment of Gastric Crises by Resection of the Dorsal Roots.**—The details are given here of a case in which all the incessant tormenting gastric crises were permanently abolished by this operation, which actually proved life-saving under the circumstances. The results encourage similar intervention in all such cases of the severest form of gastric crises with inanition and impelling to morphin addiction or suicide. At the first sitting laminectomy had been done, but with merely an aggravation of the symptoms; resection of the seventh to tenth dorsal roots was followed by immediate cessation of all pain and nausea; "they were as if blown away," Foerster remarks, and the patient demanded food, notwithstanding the effects of the anesthetic. He is still gaining about four pounds a week, and not a trace of the former disturbances has been observed during the four months since, except that the morphin addiction has required gradual tapering off.

76. **Epigastric Hernia.**—All the articles in this issue of the *Beiträge* issue from the surgical clinic at Breslau, and the number is dedicated to the memory of von Mikulicz, the former chief of the clinic. Capelle reports 48 cases of epigastric hernia in which an operation was done with the ultimate outcome known in 35 instances. All but 6 of the patients were free from disturbances when examined later, but in these there was a tendency to recurrence of the hernia or development of lipoma. The trouble in 2 cases was evidently from the silk worm used in the suturing, suggesting that absorbable material had better be used for an epigastric hernia. In others the pain complained of before the operation still persisted, indicating that the hernia had not been responsible for it as supposed. No attempt had been made to seek for any other cause for the pain except in 2 cases and in both of these a gastric ulcer or inflamed lymph node had been discovered, the latter possibly referable to some undetected ulcer. This patient says that the pain is just the same as before the operation four years ago, or even more severe, especially after meals, and the diet has to be light. The underlying stomach affections had been masked by the epigastric hernia. The coincidence of gastric ulcer and epigastric hernia has been reported by several writers, and all comment on the months of improvement that follow the herniotomy, evidently due to the rest in bed and hygiene imposed by the operation. Six other patients have succumbed in the interim to gastric cancer, these cases emphasizing the importance of an exploratory laparotomy in every case of epigastric hernia with the slightest symptoms traceable to the stomach. Simple suture of the fascia does not guarantee sufficiently against recurrence, he concludes, and the Menge-Graser or some similar plastic technic is now used at the clinic, as he describes in detail.

83. **Urinary Concrements in the Württemberg Province.**—The statistics cited show that bladder and kidney stones used to be extremely prevalent in this region, especially in children, but that this is no longer the case. The improved methods of infant feeding in late years are probably responsible for the change.

84. **Neuropathic Joint Lesions.**—Twenty-one cases of tabetic affections of the joints are summarized from the records of the clinic, with illustrations, and their differentiation from other arthropathies is discussed. It seems evident that many of these joint affections belong in the class of spontaneous fractures. The Roentgen rays permit the ready differentiation of deforming arthritis from the neuropathic arthropathy,

and they also disclose latent arthropathies, thus permitting prophylactic measures in time—relieving the joint from the weight of the body—so that severe disfigurement and deformity can be warded off.

Berliner klinische Wochenschrift

June 21, XLVIII, No. 25, pp. 1149-1196

85 *Psychology and Psychotherapy. (Psychologie und Heilkunst.) Dubois.
86 Organic Hemiplegia in Young Girl after Emotional Shock. E. Frank.
87 *Diagnosis of Incipient Tabes. Kann.
88 *Return Cases of Scarlet Fever. (Scharlachinfektion durch geheilt entlassene Kranke.) K. Preisich.
89 Favorable Influence [illegible] roid on Experimental Tube[illegible] Infections. (Günstiger Einf[illegible] der Schilddrüse auf die [illegible] und pseudotuberkulösen Infektionen.) C. Frugoni and G. Grixoni.
90 Non-Malignant Invasion of Walls of Normal Uteri by Chorio-epithelium. R. Meyer.
91 Treatment of Disturbances in Speech from Standpoint of General Practitioner. (Was muss der Hausarzt von den [illegible]) [illegible] E. Knopf.
92 [illegible] Microparasites in Secretions [illegible]

June 28, No. 26, pp. 1197-1244

93 Outcome of Operations for Myopia. (Erfolge der Myopieoperation.) A. Vossius.
94 Effects of Removal of Duodenum in Dogs. (Beobachtungen an Hunden n[illegible]um.) A. Bickel.
95 *Serotherapy of [illegible] F. Meyer.
96 Importance of [illegible] General Metabolism in Man. (Einfluss von [illegible] Gesamtstoffwechsel des Mensc[illegible]
97 Granulation of White Bl[illegible] der weissen Blutkörperchen.) N. v. Jagic.
98 Subphrenic Pyopneumothorax as Complication of Typhoid Relapse. W. Alexandroff.
99 *Direct Visual Inspection of Distended Anterior Urethra.* (Zur Endoskopie der Urethra anterior mit dem Goldschmidt'schen [illegible] Schlenzka.
100 *[illegible] especially Gastric Carcinoma. [illegible] 25.

85. **Psychotherapy.**—Dubois emphasizes the importance of deep sympathy, absolute truthfulness and skill in persuasion as the three requisites for successful psychotherapy, and urges that young physicians should be trained along these lines. He is optimistic as to the benefits of treatment in psychopathies and psychoneuroses when treatment is based on rational grounds. Every psychosis is compounded of three factors, he says: (1) a primary *Fühlsanlage* or disposition (character, personality, mentality); (2) a *Fühlslage* or mood, a period during which the reactions are temporarily modified (by exhaustion, drowsiness, fatigue, disease, etc.); and (3) some event acting on the individual in the special mood and thus bringing on the psychosis. Treatment should be directed to the first factor, the character, personality, mentality, the *Fühlsanlage*, and here is where the skilled physician is able to soothe, influence and modify the underlying disposition which is the foundation on which all the rest is based. He has been extremely successful in treatment along these lines, disregarding the two other comparatively unimportant factors and exerting all his energy against the primary *Fühlsanlage.*

87. **Diagnosis of Incipient Tabes.**—Among the points useful for detection of tabes in the early stages is the functioning of the bladder. The patient may regard it as normal when it is beginning to show certain modifications such as delay in micturition after the impulse, relative incontinence at other times, especially after drinking, dribbling of urine during coughing or emotions—all suggesting weakness in the bladder musculature. The patient's denial of venereal infection can not be relied on, as a rule. Pain suggesting rheumatism, at various points, trigeminal or intercostal neuralgia, is important, as also paresthesia in the perineum or scrotum before it develops in fingers, toes or soles. Suggestive also are disturbances in appetite or digestion, obstinate constipation, abnormal sensations in the domain of the auditory or olfactory nerves. The ocular symptoms of tabes may occur as merely suggestions, but even the slightest indication is important from the diagnostic standpoint. Absence of the Achilles reflex or weakness on one side is suggestive, as also the behavior of the triceps reflex, and extremely important is the early relaxation of the muscles, especially the lack of the physiologic inhibition of the movements of the muscles of the joints. This is most marked first in the knee which can be flexed to an extreme degree, and the phenomenon is also liable to be pronounced in the ankle. This hypotony of the muscles is probably reflex, due to changes in the posterior roots. Study of various movements may reveal a tendency to ataxia before there is subjective consciousness of it by comparing the movements on both sides and palpating the action of the muscles. The palpating finger will detect the abnormal functioning of some muscle in the movement when to the eye the movement appears to be normal. This is particularly important in testing for the Romberg sign. Increased sensibility to cold, with otherwise unimpaired thermal sensibility, changes in the deep sensibility of the joints, as, when the toes are passively moved, the patient can not tell in which direction they are being moved, etc., and lack of perception of the vibrations of a tuning fork standing on the tibia—all these are important early signs of tabes. The gastric crises may manifest themselves first merely in the form of nausea and retching in the morning, salivation, hiccough or other vague disturbances. Other symptoms may suggest disturbances in the vagus domain, tachycardia, laryngeal, anal and genital crises, etc. In differentiating incipient tabes from neurasthenia, etc., it is wisest to lean toward the diagnosis of tabes at first, as measures for neurasthenia or rheumatism may fan an incipient tabes into a flame, while mercurial treatment, careful hygiene, and avoidance of mental or emotional strain and exertion of predisposed parts may keep the tabes under complete control. It is especially important for the general practitioner, he adds, to detect incipient tabes as when it is more pronounced the patient is liable to apply directly to the specialist.

88. **Return Cases of Scarlet Fever.**—Preisich has encountered 180 return cases infected by 145 scarlet fever patients dismissed from the hospital as completely cured and disinfected. The period of incubation of the return cases was from 3 to 15 days in 80 per cent. and from 15 to 25 in the remainder. Of the 4,178 cases of scarlet fever declared during the year in question, 2,392 were treated in the hospital in his charge. None of the adults gave occasion for the return cases; they occurred with children who were much embraced and petted. Another point to which he calls attention is the probability that the patients in the hospitals are constantly acquiring new virulent germs from others, after their own germs have probably lost their virulence. This seems the only explanation possible for one case which followed the return of the child to its home after 102 days in the hospital. The data presented seem to indicate that the secretions of the mucosæ are the vehicle of contagion. Preisich is convinced that the skin plays no further part in transmitting the virus after it is thoroughly cleansed, but that it is important to separate the convalescents from patients in the first stages of the disease, and, chief of all, to see that the mucosæ are brought into a healthy condition before the patient is discharged. The sound mucosa takes care of the virus but it must be given time to do this, fully two weeks after recovery. When the patient has completely recovered he should pass into another department and be detained 10 or 12 days longer. To ensure this Preisich would have this auxiliary department arranged for only 6 patients, all in the same stage of the disease. A single nurse could attend to this group. After two weeks here, the patients pass to the general ward for their third and final "station."

95. **Antitoxin Treatment of Diphtheria Intoxication.**—Meyer relates experimental research which confirms the effectiveness of antitoxin, not only in saving the lives of the animals in diphtheria intoxication, but in warding off acute heart failure, chronic changes in the heart, and cachexia. Much larger doses are necessary for this, however, than those generally employed, he says, and the injection should be made earlier. He advises intravenous injection of from 20,000 to 50,000 units when the symptoms indicate the severest infection, and an antitoxin should be made for this purpose without admixture of a preservative. Injection of adrenalin is the only means to arrest impending heart failure in diphtheria, but this is eminently effectual.

100. **Biologic Diagnosis of Cancer.**—Witte concludes his long review of the various methods of biologic diagnosis of cancer with the declaration that none shows much promise. The most encouraging results obtained to date have been with the complement-binding test (Livierato) and the cutaneous carcinoma reaction (Elsberg).

Deutsche medizinische Wochenschrift, Berlin

June 24, XXXV, No. 25, pp. 1089-1128

101 *Thrombosis of Pulmonary Artery. E. Stadelmann.
102 *Treatment of Epilepsy. Kellner.
103 Psychosis and Imitation Psychosis. (Psychose und Induktionspsychose.) A. Raebiger.
104 Determination of Proteolytic Ferment in Stools. (Bestimmung des proteolytischen Ferments in den Faeces.) A. Doblin.
105 *Sepsis from Diphtheria Bacilli. F. Hesse.
106 Incarceration of Cecum with Chronic Appendicitis. (Einklemmung des Coecums in der Fovea inguinalis medialis, verbunden mit Appendicitis chronica.) R. v. Hippel.
107 *Statistical Study of Outcome of Sanatorium Treatment of Pulmonary T[illegible] (Zur F[illegible]re der Kurerfolge Lungentuberkulose [illegible] F. Köhler.
108 Technic for Me[illegible] for Inoculation Tests. (Eine neue Methode zur genauen Bestimmung der Quantität der Tuberkelbazillen bei Impfversuchen.) M. Rabinowitsch.
109 Percussion Findings with Pleural Effusions. (Gewisse Perkussionssymptome bei Pleuraergüssen.) M. Gantz.
110 Fuchsin-Alcohol Technic for Forensic Determination of Spermatozoa. (Neue Methode zum Nachweis der Spermatozoen in Zeugflecken.) B. Baecchi.

July 1, No. 26, pp. 1129-1176

111 *Treatment of Abortion. K. Franz.
112 Intestinal Pulmonary [illegible]
113 Organic Disturbances [illegible]s. (Körper[illegible]liche Störungen bei [illegible] A. Homburger.
114 Diagnosis of Cholera. H. Dold.
115 Influence [illegible]eroreaction in Syphilis. [illegible] von Sublimatinjektionen [illegible]r Wassermannschen Reakti[illegible] and H. Harder.
116 Atoxyl [illegible] mit besonderer Berücksic[illegible] Sehorgan.) J. Igersheimer.
117 *Bacteria in Tablets for Spinal Anesthesia. (Sind die zur Lumbalanästhesie verwandten [illegible] und Novokain-Suprarenintabletten [illegible]
118 *Etiology of Epidemic Cerebrospinal [illegible]ologie der Genickstarre und dar[illegible]wendung.) Knauth.
119 Special Form of Ileus from Constriction. (Chordapsus.) O. Klauber.
120 Invisible Virus. (Studien über sogenannte "unsichtbare Virus"-Arten.) Czaplewski.

101. Thrombosis of the Pulmonary Artery.—Stadelmann reports a case which demonstrates anew the impossibility of diagnosing during life occlusion of the pulmonary artery when it is not quite complete. His patient was a young man with mitral stenosis and isolated sclerosis of the pulmonary artery which contained an old, large thrombus.

102. Treatment of Epilepsy.—Kellner protests against the prevalent pessimism in regard to epilepsy, and states that his experience with 146 epileptics during the last eighteen years has shown that a large proportion are curable. He has systematically applied the Flechsig opium-bromid and baths course of treatment, and states that 31 per cent of the patients have been permanently cured, that is, free from recurrences to date. It may be necessary to repeat the course once or twice to maintain the benefit. He reviews his experience in detail, remarking that any nausea caused by the treatment can be cured by keeping the patient in bed for a few days, refraining from hot meat. Cold meat is generally well tolerated. His last series of 61 patients were thus brought safely through the 50 "opium days," although they generally lost considerably in weight but this was soon regained in the following weeks. He urges the importance of institutional care of epileptics during treatment and the separation of the mentally sound from the idiots. He states that Germany has from 30,000 to 35,000 individuals with epilepsy without impairment of the mind; the pessimistic standpoint of many physicians drives these unfortunates to the quacks when persevering systematic treatment would cure a large proportion.

105. Diphtheria Bacilli and Sepsis.—Hesse reports a case in which a previously healthy young man recovered spontaneously from tonsillitis, but sepsis developed not long afterward, proving fatal in a few weeks. Diphtheria bacilli were found in pure cultures in the blood; the injections of antitoxin came too late to have the slightest influence on the disease. Typhoid had been suspected at first, and later streptococcus sepsis.

107. Sanatorium Statistics in Regard to the Cure of Tuberculosis.—Köhler states that recent examination or news of 1,668 tuberculous patients two years after a course of sanatorium treatment showed over 61 per cent. with complete earning capacity; after four years 53.5 per cent., and after six years 69.4 per cent. Partial earning capacity was found in 17.5 per cent. after two years; in 14.2 per cent. after four years, and in 7 per cent. after six years, while 14.2 per cent. had died by the end of two years; 25.2 per cent. after four years, and 19.4 per cent. after six years. The tuberculosis was by no means responsible for all these deaths.

111. Treatment of Abortion.—Franz remarks in the course of this clinical lecture that the main task in treatment of abortion during the first seven months is to arrest the hemorrhage, but later the task is to ensure the complete emptying of the uterus. He warns that the curette should never be used with a vesicular mole as it is impossible to know the extent of the destruction of the uterus wall. After the uterus has been cleared with the finger, he rinses it out with two or three liters of 70 per cent. alcohol in every case of abortion.

117. Defective Sterilization of Tablets Used for Spinal Anesthesia.—Hoffmann has been testing various tablets of anesthetics for spinal anesthesia on the market, and has discovered bacteria in them. Attempts to sterilize the tablets by heat destroyed the suprarenal preparation in the tablets. He advises against admixture of any suprarenal preparation with the anesthetic, declaring that it is best to sterilize them separately.

118. Prophylaxis of Epidemic Cerebrospinal Meningitis, etc., in Garrisons.—Knauth tabulates the infectious diseases occurring in the barracks at Würzburg, showing certain connections useful from the standpoint of prophylaxis. Among the conclusions is the necessity for paying greater attention to tonsillitis and to guarding the patients for a few days afterward. The organism recovering from the struggle against the germs must be protected while it recuperates; otherwise the door is thrown open to other infectious processes. Protection during convalescence from acute tonsillitis, he asserts, will save the troops from many cases of nephritis, acute articular rheumatism and even epidemic cerebrospinal meningitis. His recent experience with prophylaxis along these lines has been convincing.

Jahrbuch für Kinderheilkunde, Berlin

June, LXIX, No. 6, pp. 625-744

121 *Jaundice in New-Born Infants. (Der Icterus neonatorum.) C. Hasse.
122 *Exudative Diathesis and Eosinophilia. J. Rosenstern.
123 *Chronic Nephritis in Children. O. Aronade.
124 Cutaneous Tuberculin Reaction in Children. E. Hellesen.

121. Jaundice in the New-Born.—Hasse reports study of the anatomy and physiology of fetuses and new-born infants which demonstrates that the jaundice is the result of the action of the diaphragm causing stasis in the biliary passages. Conditions right themselves as the at first disproportionately large liver becomes reduced in size under the influence of the regular respiration.

122. The Exudative Diathesis and Eosinophilia.—Rosenstern calls attention to the coincidence of eosinophilia with certain skin diseases, especially eczema and prurigo, affections of the mucosæ, helminths and certain nervous affections, including epilepsy, chorea and migraine, and discusses the connection between the eosinophilia and eczema in particular. The average in 6 breast-fed healthy infants was 242 eosinophile cells, and in 6 artificially fed, 226. In 14 with eczema they ranged from 146 to 4,377. In 6 with asthma, from 76 to 1,287. Study of the eczema cases shows, he says, that the eosinophilia is not dependent on the local process but is an independent symptom of a constitutional anomaly, the result of some injury which entails both the eosinophilia and the tendency to the eczema. Both are the consequences of a single cause.

123. Chronic Nephritis in Children.—Aronade gives the autopsy findings to complete the case reported, throwing light on the nature and course of such nephritic processes in children.

Medizinische Klinik, Berlin

June 27, V, No. 26, pp. 951-990

125 The Right to Life of the Child. (Recht des Kindes auf das Leben.) K. A. Herzfeld.
126 Roentgen Diagnosis of Gastrointestinal Lesions. (Zur röntgenologischen Diagnose der Erkrankungen des Verdauungstraktus.) Schurmayer.
127 Severe Anemia in Infant from Lack of Iron. (Schwere Säuglingsanämie durch primären Eisenmangel.) W. Stoeltzner.

128 *Treatment of Asthma. M. Saenger.
129 *The Terrace System of Construction of Houses, Hospitals, Etc. (Freilufthäuser.) D. Sarason.

July 4, No. 27, pp. 991-1028

130 *Syphilitic Involvement of the Joints. (Luetische Gelenkerkrankungen.) W. Harttung.
131 Liver Abscess. (Leberabszess.) Mac Lean.
132 Modern Treatment of Gastric Ulcer. (Moderne Therapie des Ulcus ventriculi.) W. Zweig.
133 *Intermittent Claudication. (Intermittierendes Hinken.) E. Tobias.
134 Preparation of Digitalis. (Zwei Digitalisfragen aus der Praxis.) C. Focke.
135 *Influence of Pregnancy on Laryngeal Tuberculosis. (Einfluss der Schwangerschaft auf die Tuberkulose des Kehlkopfes.) E. Glas and E. Kraus. Commenced in No. 26.
136 Bacteriologic Desiderata in Preparation of Catgut. Wolthe. Commenced in No. 26.

128. **Treatment of Asthma.**—Saenger states that five years' experience has only confirmed the benefits of his method of treating asthma by training the patients to breathe and to endure long pauses between the inspirations. One way is to have the patient count and then take a short breath, or the patient can blow or whistle or play on a mouth harmonica instead of counting. The aim is to control the respiration and free the patient from the dread of suffocation during long pauses between inspirations. He should be trained to use his abdominal muscles more in breathing. Another important point is to teach the patient to control the tendency to cough, as the cough is liable to start the attack of asthma. The general hygiene must be regulated, and the physician must bear in mind that the patient is liable to have other morbid tendencies, besides the asthma, which may require correction. These patients are often lacking in will power and are obstinate and capricious, requiring pedagogic measures.

129. **"Terrace" Houses.**—Sarason's system of construction of buildings has already been described in these columns, but his recent modifications have rendered it more practicable. In order to have plenty of balconies for outdoor sleeping and living, without detracting from the light and air of the rooms beneath, he has each story set back a few feet from the front elevation of the story below. This forms a series of terraces at the different stories. In order not to sacrifice too much indoor space to these terraces, he has each terrace supplemented by being built out like a balcony, the width of this balcony being added to the floor of the terrace, while the balcony is too narrow to interfere with the light and air of the rooms in the story below.

130. **Syphilitic Joint Lesions.**—Harttung discusses the various forms and indications, remarking that general specific treatment, with surgical measures as indicated, will ensure complete restitution if taken in time. Even if there is much destruction or scar formation, specific treatment arrests the process and saves what is still repairable.

133. **Intermittent Claudication.**—Tobias reports nine cases, the dyskinesia being in the legs; four of the patients were working people and five were Jews. The first symptoms had been observed years before in some of the cases. Tobacco was not a factor in any instance, but a neuropathic diathesis was evident in all. In one case diabetic neuritis and in another the influence of trauma were evident. The frequency of the affection in Russia seems to suggest some climatic influence. Flatfoot may be a predisposing factor. The most important symptom is the weakness or absence of the pulse in the feet. He has made a practice during the last seven months of examining the pulse in the arteries of the foot and legs in all his patients. In only one case he found no pulse in the arteries of the foot, and this individual proved to have intermittent claudication. The immediate disappearance of the disturbance during rest is important for differentiation, as also the fact that palpation does not cause pain. Treatment should aim to regulate the circulation and cure the neuropathic tendency with symptomatic measures; the main point is to commence treatment early. Besides general hygiene, hydriatic and balneologic measures, systematic exercises are important but severe efforts do harm. He has never witnessed any benefit from massage; the important point is to alternate rest and exercise. Gangrene is rare from this cause at present, but in many cases the intermittent claudication still resists treatment although it can be kept measurably under control.

135. **Influence of Pregnancy on Laryngeal Tuberculosis.**—Glas and Kraus report the experiences at Chiari's and Schauta's clinics at Vienna with 59 cases of laryngeal tuberculosis in pregnant women. They confirm the unfavorable influence of gestation on a tuberculous process in the larynx. Küttner has declared that a pregnancy in women with laryngeal tuberculosis is equivalent to a death sentence in 90 per cent. of the cases, and the reported experiences are even more discouraging: none of the 32 women with diffuse laryngeal tuberculosis survived the puerperium. In another group of 11 cases the laryngeal process, originally very mild, became transformed during pregnancy into the diffuse form, fatal in all. On the other hand, in some of the patients in whom abortion was induced, the laryngeal process promptly took a turn for the better. In 20 per cent. of their cases spontaneous abortion occurred and these women all died. Of the 32 women delivered at term 60 per cent. of the children survived only a few days. Veit's dictum in regard to the importance of the increasing or declining weight as an index of the severity of the laryngeal process was found useful but should be estimated always in connection with the general findings. Early in the pregnancy the progressive character of the laryngeal process indicates abortion; later in the pregnancy interference has no effect on the progressive laryngeal lesion, but tracheotomy may relieve and it has occasionally a direct curative effect.

Münchener medizinische Wochenschrift

June 22, LVI, No. 25, pp. 1265-1312

137 *Clinical Importance of Seroreaction in Syphilis. L. Hauck.
138 *Origin of Uterine Tumors. (Entstehung der Uterustumoren.) A. *Theilhaber.*
139 *Internal Treatment of Skin Diseases with Lime Salts. (Innerliche Behandlung von Hautkrankheiten mit Kalksalzen.) Bettmann.
140 Serotherapy in Epidemic Cerebrospinal Meningitis. (Serumtherapie bei epidemischer Genickstarre.) B. Leick.
141 Flatfoot Shoes without Insole. Muskat.
142 Care of Umbilical Cord. (Zur Versorgung des Nabels beim Neugeborenen.) Krummacher.
143 Foreign Bodies in Nose. (Diametral gegenüberstehenden Folgeerscheinungen zweier Fremdkörper in der Nase.) Mühlenkamp.
144 *Treatment of Postpartum Hemorrhage. (Behandlung der Post-partum Blutungen.) A. Labhardt.

137. **Seroreaction in Diagnosis of Syphilis.**—Hauck ascribes great value to the Wassermann test in syphilis from his findings in 300 cases of syphilis and 184 control cases. It is not infallible, he says, but neither is the agglutination test in typhoid.

138. **Hematogenous Origin of Myoma and Carcinoma.**—Theilhaber thinks that there is an unmistakable connection between the composition and circulation of the blood and the development of myoma and cancer. Myoma occurs in hyperemic regions, carcinoma in anemic; this explains the prevalence of the former in the well-to-do and in regions subject to recurring hyperemia, while the poorer nourished are less subject to it and suffer more from cancer at points imperfectly nourished, as in the cervix of the uterus and in cicatricial tissue. His views are based on the findings in 228 cases of uterine myoma and 133 of carcinoma of the cervix, encountered among his 5,848 gynecologic patients during the past ten years. The composition of the blood in the leisure class, the meat eaters, probably differs from that of the defectively nourished, the working classes. He ascribes to certain substances in the blood the process of menstruation, the development of sexual characteristics, etc., and believes that the character of the food has a great influence on the composition of the blood, just as plants can be influenced in growing fruit and flowers by modifying the manure used on them. Myoma very rarely occurs in the badly nourished cervix while carcinoma is frequent there; when the circulation in the fundus has become defective after the menopause, carcinoma is liable to develop in the fundus while it is very rare in the fundus in young women. Myoma occurs more frequently the less the number of births, while carcinoma is encountered more frequently the greater the number of births with their resulting cicatricial processes. Cancer of the cervix is rare in women who have not borne children.

139. **Internal Treatment of Skin Diseases with Calcium Salts.**—Bettmann has obtained remarkable benefit in a certain

proportion of itching skin affections from internal administration of calcium lactate in a 5 per cent. solution, one or two tablespoonfuls an hour before meals, three times a day, for three or four weeks. His experience with seventy cases showed that the remedy failed to influence the affection in the majority of cases, but in others the effect was marked and encourages further trials of this simple medication which his experience has shown to be harmless. It proved efficient in conditions peculiarly rebellious to other measures, especially in the "toxicodermias." In senile pruritus, in particular, the effect was marked.

144. **Treatment of Postpartum Hemorrhage.**—Labhardt reviews the experiences at von Herff's clinic at Basle with atony of the uterus and placenta prævia; during the twelve years ending in 1903, 0.05 per cent. of 38,923 lying-in women died from the results of atony and 0.025 per cent. from placenta prævia. During the years 1901-1908 Dührssen's tamponing technic was applied in 6 cases to arrest threatening hemorrhage, but the women all died; another died without tamponing. In all the other 210 cases of hemorrhage from atony it was arrested without tamponing, merely under ergot, massage and hot douches. Adrenalin was used in 2 cases, but failed to display any efficacy, probably from the abnormal structure of microscopic elements in the uterus wall. This abnormal structure is one of the reasons why the results of experiments on animals can not be applied to man, as the organs of the animals are presumably sound. Bettmann thinks that resection of the bleeding uterus or hysterectomy should be considered more generally in treatment of rebellious postpartum hemorrhage. He applied it in 2 cases but while debating the indications precious time was lost and the operation came too late. The heart action must be the guide to determine when to operate, he reiterates. If the blood pressure has dropped until the pulse is almost imperceptible, and the measures previously applied have induced little if any response on the part of the uterus, the moment has come for operative interference. In any event, he adds, do not waste time tamponing. He advocates a laparotomy, drawing the uterus out and throwing a rubber tube around it at the vesicouterine plica, like a tourniquet, which arrests all tendency to hemorrhage. The drawn out uterus can then be packed in sterile cotton and prevented from slipping back by a couple of knitting needles inserted above the constricting band. The woman can then be carried to a hospital, or if already in the hospital the resection or hysterectomy can proceed. By this means the general practitioner is able to handle these urgent cases of postpartum hemorrhage; he requires only a knife or scissors for the incision, a band for the constriction of the pedicle of the uterus and two knitting needles—all of which can be readily sterilized. The main point is to make the abdominal incision as short as possible, only long enough to reach in and draw out the uterus; if too long it allows prolapse of intestine which dangerously complicates the case. In severe postpartum hemorrhage the only chance for the woman is in operative intervention before it is too late.

Riforma Medica, Naples

June 21, XXV, No. 25, pp. 673-700

145 Chemistry of the Stomach in Tabes. (Le crisi gastriche e lo stomaco dei tabici.) G. Tria *and* M. Landolfi.
146 Negri Bodies, Lentz Bodies and Changes in the Nerve Centers in Rabies. (Corpi Negri, corpi di Lentz ed alterazioni dei centri nervosi nella rabbia.) L. d'Amato and V. Faggella.
147 Syphilids in Third Stage of Syphilis. (Il periodo tardivo della sifilide in rapporto al periodo precoce.) P. Longo.
148 Bladder Disturbances in Spinal-Cord Disease. (Studio delle turbe vescicali nelle malattie del midollo spinale.) L. Segre.

Hospitalstidende, Copenhagen

June 2, LII, No. 22, pp. 681-704

149 *Attempt to Remove Tumors at Base of Brain. (Forsøg paa at tjerne 2 Tumores, den ene i Vinklen mellem Pons og Cerebellum, den anden i Cerebellum.) V. Christiansen.

149. **Tumors in Cerebello-Pontine Angle and in Cerebellum.**—Christiansen reports two cases in which an attempt was made to remove the tumors, and if they had been less extensive they might have been shelled out. This proved impossible owing to the ramifying growth of the large tumors. The ample access to the cerebello-pontine angle encourages further attempts in this line. The enormous tumor at this point, although in direct contact with the inferior cranial nerves, yet caused symptoms from only three of them. The patient was a child of 6, and autopsy disclosed a hemorrhagic cyst on one side of the pons, evidently responsible for the transient loss of consciousness observed several times during the last few weeks. The tumor grew both inside and outside of the pons but its intrapontine part had induced only slight and vague symptoms, the syndrome being dominated by the involvement of the cranial nerves. The other patient was a man of 29 and the symptoms observed for nine months all pointed to a cerebellar tumor, especially the intense pain in this region the vertigo and vomiting, but no tumor was discovered at the operation. Autopsy revealed it on the under surface of the cerebellum clinging also to the pons and medulla oblongata, but it was not definitely circumscribed. In both cases the comparative mildness of the symptoms in view of the large size of the tumors was most striking. The medulla in the second case was compressed to a ribbon for a few centimeters, but still no symptoms were observed suggesting involvement of this organ.

Norsk Magazin for Lægevidenskaben, Christiania

June, LII, No. 6, pp. 494-568

150 Studies on Radioactivity. E. Poulsson.
151 Nine Pubiotomies. (Hebosteotomi.) K. Brandt.

Upsala Läkareförenings Förhandlingar

XIV, Nos. 5-6, pp. 349-505. Last indexed June 12, p. 1966

152 Technic and Prognosis of Operations for Extraction of Crystalline Lens (Kasuistika bidrag till kännedomen om linsextraktionens teknik och prognos.) A. E. Lidström.
153 Technic for Study of Capillary Circulation in the Frog especially in the Frog Lung. (Om tekniken vid undersökning af [illegible] hos grodan.) H. Ohrvall.
154 Technic an[illegible] of 352 Various Gynecologic Operatior[illegible] gynekologiska operationer.) G. Ekehorn.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

MENTAL MEDICINE. By Oliver Huckel, S.T.D., Graduate, University of Pennsylvania. Cloth. Pp. 214. Price, $1 net. New York: Thomas Y. Crowell & Co.

EXERCISE IN EDUCATION [illegible] . Tait McKenzie, B.A., M.D., Professor of [illegible] Director of the Department, University of [illegible] Pp. 406, with 346 illustrations. Price, $5.00 net. Philadelphia: W. B. Saunders Co., 1909.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital. Edition 5. Flexible Leather. Pp. 876, with 2000 new terms. Price, $4.50 net. Philadelphia: W. B. Saunders Co., 1909.

SURGICAL DIAGNOSIS. By Alexander Bryan Johnson, Ph.B., M.D., Professor of Clinical Surgery in the C[illegible] University Medical College. Volumes I. and II. Cloth. wi[illegible] Price, $18 per set. Three volumes in set. Sold in sets only. New York: D. Appleton & Co., 1909.

PRINCIPLES OF PHARMACY. By Henry V. Arny, Ph.G., Ph.D., Dean and Professor of Pharmacy in the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Cloth. Pp. 1175, with 246 illustrations. Price, $5 net. Philadelphia: W. B. Saunders Co., 1909.

BIER'S HYPEREMIC TREATMENT. By Willy Meyer, M.D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital, and Prof. Dr. Victor Schmieden, Assistant to Professor Bier, University of Berlin, Germany. Edition 2. Cloth. Pp. 280, with illustrations. Price, $3 net. Philadelphia: W. B Saunders Co., 1909.

VÉSICULE BILIAIRE ET LITHIASE. Choix d'un Procédé Opératoire dans la Lithiase Vésiculaire. Par le Docteur Louis Ha[illegible]tefort, ancien interne des hôpitaux de Paris. Paper. Pp. 196, with 15 illustrations. Price, 4.50 francs. Paris: G. Steinheil, éditeur, 2, rue Casimir Delavigne.

DAS ALTERN: SEINE URSACHEN UND [illegible] HYGIENISCHE UND THERAPEUTISCHE [illegible] für eine rationelle Lebensweise. V[illegible] in Karlsbad. Paper. Pp. 257. Pric[illegible] von Dr. Werner Klinkhardt, 1909.

A SELECTION OF CASES ON MALPRACTICE OF PHYSICIANS, SURGEONS AND DENTISTS. By Martin J. Wade, Professor of Medical Jurisprudence in the College of Medicine, and Lecturer in the College of Law, State University of Iowa. Cloth. Pp. 896. Price. $4.75. St. Louis: Medico-Legal Publishing Co., 1909.

A SYSTEM OF MEDICINE. By many writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of [illegible] mphry Da[illegible] F.R.C.P., [illegible] George's [illegible] 969, with [illegible] V. Dise[illegible] System, Disorders of the Blood. Price, $[illegible] Macmillan Co., 1909.